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# BOOKKEEPING ACCOUNTING AND AUDITING

BY

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“Ever judge of men by their professions. For though the bright moment of promising is but a moment, and cannot be prolonged, yet if sincere in its moment’s extravagant goodness, why, trust it, and know the man by it, not by his performance.”—*Browning.*

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“A lawyer without history or literature is a mechanic, a mere working mason; if he possesses some knowledge of these he may venture to call himself an architect.”—*Sir Walter Scott.*





## PREFACE

One thing which distinguishes bookkeeping and accounting from most other lines of human activity is that they deal with figures which are more or less abstract. One does not handle in bookkeeping and accounting definite things which can be counted, looked at, examined, and held in the mind's eye while one is thinking about them. One's thinking must be done through the imagination. One must reason and draw conclusions about things which, though real, can be grasped only by the brain; for the accountant cannot cut up every article of merchandise and every note into a portion which is investment and another portion which is profit. This involves at first a certain amount of hard thinking, but by long practice one may become so familiar with fundamental principles that for common transactions one reaches right conclusions unconsciously, from force of habit. So one escapes the confusion of trying to think about several sets of abstract things at once. That is to say, if the figures themselves are abstract and require on the accountant's part some effort to hold them firmly in his mind, he ought not to be trying at the same time to reason out the method which he shall use in making an entry; for he may find the effort to do two lines of thinking at

once so confusing as to lead to wrong results. The principles of bookkeeping and of accounting, therefore, should be so thoroughly familiar that they are, for most transactions, matters of second nature.

Everyone who is not an expert pianist wonders how a skilled performer can work his fingers with such rapidity and hit the right notes with just the right force, hold them for just the right time, and at the same time work the pedals so that no note shall be sustained beyond its due season. It appears as if the pianist were reading the signature to indicate sharps or flats, the notes to indicate what keys should be pressed, the value of the notes to indicate the duration, the marks of expression, the keys under his fingers, and the pedals under his feet, all at the same time. This looks like superhuman power. As a matter of fact, of course, the experienced performer is perfectly unconscious, after he has begun to play, of the signature—because once in the swing of the key he unconsciously introduces the proper sharps or flats because of long practice—he unconsciously holds the notes the right length of time—because from long practice the sight of a certain type of note produces almost automatically in his fingers the right length of pressure upon the key,—and without his consciousness of it the sight of the pedal-mark on the page depresses his feet, or the ring of the notes in his ear results in an automatic pressure of the pedal. The player, in other words, though he appears to be doing many things at once, involving the sight of many things at once, is doing most of his work almost unconsciously, and is governed almost entirely by the sensation produced in his ear by the automatic

connection between the printed notes and his fingers and feet. The same thing is true of any practical work. Only after we have had much experience in any line of work can we do difficult things easily, but those things which to a novice seem beyond comprehension are matters of commonplace after the wonders of reflex action have had opportunity to work.

The singular thing about reflex action is that instead of waiting for the nerves to carry a message to the brain, and then the brain to send another message back to a muscle telling it to move, a short cut has been made directly from a nerve to a muscle, which causes the muscle to act even before the brain knows what is going on. If, for instance, I move my hand unconsciously against a thistle, before I am really aware of the fact that I am in pain my hand has involuntarily shrunk away from the sharp point. I become aware of the pain practically at the same moment, or even after the withdrawal of the hand, because the nerve which felt the pain sends a message directly to the muscle and causes the hand to be withdrawn at the same time that it sends the message to the brain notifying it of the discomfort. This is the secret, as has been suggested, of all skill, and the bookkeeper is not competent to do rapid work—or, we may almost say, even accurate work—unless the principles to govern his operations are so far a part of his mental equipment that without stopping to think how the thing ought to be done he does it in the correct way. The first step for anyone wishing to learn to be an accountant is, therefore, to master thoroughly the fundamental principles—to master



them so thoroughly that he never has to stop to think what should be debited or what credited in any transactions but those which are of an unusual nature.

This book is intended to discuss all the common principles of accounting as found in normal business, and to make them clear to persons who wish to study them without a teacher. The best teacher is not so much the one who teaches as the one who gives his pupils opportunity and guidance in *learning*. The *learning* must be done by the *pupil himself*. This book professes only to give the opportunity and the guidance. It is undesirable in a book of this type to afford a large amount of practice in bookkeeping or accounting work, for if that were done the pages would be filled with repetitions of similar transactions which, though necessary for the beginner, would deprive him of the opportunity to do his own thinking. The common transactions of business are so well understood by everyone above childhood that practice can usually be provided by each student for himself through a very simple exercise of the imagination. For instance, one needs to know automatically that a sale of merchandise for cash involves a debit to Cash and a credit to Merchandise; and the student should have come across that transaction and made the proper entry so many times that instinctively the sight of the words "sold for cash" brings up to his mind the words "Cash to Merchandise." It is recommended, therefore, that anyone undertaking to use this book as a means of learning the arts of bookkeeping and accounting construct for himself a large number of imaginary transactions involving, over and over, all the common transactions. This



should not be done, however, by outlining a large number of transactions of the same sort following one another in immediate succession. If one writes one hundred transactions of the same sort one after another one is not cultivating the habit of thinking about them; indeed, one is doing nothing more than training the hand to make entries in the right form; for after the first entry, with a knowledge that the transactions are the same, the brain is not called into play. The proper method, then, of inventing transactions for practice is to alternate them so that very seldom do two of the same sort come together. If a sale for cash is followed by the issue of a note in payment of a bill, and that by the payment of wages, and that by the borrowing of money, or the payment of a bill in cash, or the receipt of interest money, etc., so that the mind is obliged to jump around from one sort of thing to another with great rapidity, and all these transactions come again and again and again, the mind soon acquires the ability to make the entries by the kind of reflex action already referred to. When one has acquired facility in making these common entries one should attempt to make entries of a peculiar type, beginning with those that are merely unusual, though simple, and then gradually increasing complexity until one has mastered the ready handling of practically all cases that may arise. In the appendix will be found a number of such rather complex cases to illustrate the sort of practice necessary.

In the first part of the following pages will be found not only a careful working-out of the common transactions of business, each repeated in one form

or another several times, but an indication, by typical illustrations, of the bookkeeping for less frequent transactions. Anyone who has absolutely mastered the principles here expounded—that is, has mastered them so thoroughly that he is not likely to stumble in their application—is competent to make the entry for any transaction that he understands.

Accounting principles require somewhat the same sort of practice as that suggested in connection with bookkeeping, though to construct for it situations out of pure imagination is not quite so easy. The reader who wishes to master accounting is recommended to invent for himself situations involving the principles expounded in the latter part of this book—such as the distinction between capital and revenue, between one class of expenses and another, between stable values and depreciating values, between values involving only capital and those involving interest and discount. Then such transactions may be made more complicated by the introduction of two or three of these distinctions at the same time, and so on until a high degree of complication has been handled successfully. Students of accounting commonly have the experience of thinking they understand what in reality they do not understand. Often they understand just what they see before them as a problem but fail to see just how big the problem is. Every principle should be worked out in detail, in *black and white*, and the student should accustom himself to thinking exactly how every situation would look upon the books. If all situations desirable to study were presented in type

in this text-book, the student would be deprived of the valuable practice of working them out for himself, and would become better accustomed to seeing them in type than to seeing them in his mind's eye. He should, therefore, in thinking of situations described in this book, try to see how each would look in books of account, and then he should write the entries for himself. As he reads the text, he may then see whether the facts there mentioned apply to the situation that he has put before himself. If not, he should go back and see what is the discrepancy between the situation he has recorded and that described. Then he is in a position to try the conclusions suggested in the book with the actual figures before him. This method fixes in his mind the appearance on the books of all common situations and enables him in practice to recognize at once the things which he has here been studying theoretically. This should be done particularly for things that are here discussed but not worked out in detail in the printed form.

For the interpretation of accounts the best practice is to get hold of the reports of corporations and partnerships, though the latter are seldom published, and attempt to read between the lines—to see, for instance, why each particular kind of asset was increased or decreased from one year to another, from what source the assets were increased and the liabilities decreased, or how it happened that the assets were decreased or the liabilities increased. Wherever statistics can be obtained to show the detailed operations of any company, as is always possible with railroads, the attempt should be made to relate those



operations to the income sheet and to the balance sheet so that one may see how far the various parts of a report are consistent and what light each part throws upon the others.



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# ACCOUNTING AND AUDITING

## CHAPTER I

### INTRODUCTION

The art of accounting is commonly thought to include only making a record of facts. It chances that as industry has developed in recent years the making of the record is the least important part of the accountant's task. Accountancy is something more than bookkeeping. Bookkeeping is the art of making the record of known facts in such shape that the record can be interpreted and mathematical conclusions drawn. Bookkeeping, that is to say, assumes that the fact is known before the records are constructed. Accounting, on the other hand, is not an art of making records but is the art of learning the facts which bookkeeping is supposed to record. This may be illustrated by a manufacturing business. The bookkeeper records the expenses for raw material, wages, fuel, taxes, rent, interest, insurance, and also the returns from sales of goods. Speaking roughly, a comparison of the two sets of figures gives the profit. This is bookkeeping. The accountant, on the other hand, will desire to know very much more than this. He will desire to know just how much a

dollar's expense in labor has returned in product, how much every dollar's worth of goods sold has cost in the factory, what is the relation between the fuel consumed and the amount of product, whether all the articles produced show the same ratio between manufacturing cost and selling cost, or whether the profit is very much larger on some things than on others, whether the cost of each step in production is greater or less this year than in preceding years. These figures enable him to determine three things: first, what price he can best afford to put upon his product; second, what is the most profitable part of his business and whether any part is unprofitable; third, whether the greatest economy is practiced in obtaining the product. He is concerned also to see that proper allowances are made periodically for changing values: that is to say, he is concerned to see that at proper intervals allowance is made for changes in value of real estate, merchandise on hand, machinery and tools, investments, and innumerable other things which share in the vicissitudes of all things earthly. When these facts have been determined by the accountant, it is a simple matter for the bookkeeper to make them matters of record. Thus it is true, as already suggested, that the accountant is concerned with learning facts which are not obvious, and the bookkeeper is concerned with recording both the obvious facts and those which the accountant has ascertained.

The work of the accountant cannot be made mechanical, nor can it be taught by any rules which one may commit to memory. It is almost entirely governed by judgment, and judgment is acquired



through experience in actual business or through experience in dealing with imaginary cases which might well arise in business. Not all people have the power of cultivating judgment, for certain qualities of mind are essential. These may be improved by education, but they cannot be created. It is true, however, that even those who have not naturally good judgment may as a result of education become more trustworthy than other persons of natural good judgment who have not taken the trouble to acquaint themselves with the facts of business. It follows, therefore, that though no book can rightly profess to furnish judgment, and so to make accountants out of bookkeepers, study of a good book should make a better bookkeeper, and one who is capable of doing some accounting work, even out of one who is not naturally possessed of good judgment; for so far as the exact problems to arise can be studied in advance, accounting solutions may be provided in advance. So far, however, as problems arising for any accountant are new to him, he must solve them out of pure judgment or from their similarity to other cases of which the solution is familiar to him.

It is the purpose of this volume to take up the commoner sorts of accounting problems in the various forms under which they are likely to arise, and to work them through so as to furnish illustrations for most of the simpler cases that are likely to appear in actual business. It is impossible, however, that all kinds of cases shall be covered, for things are constantly happening in business unlike any that ever occurred before—or at least unlike any

that could have been foreseen and provided for by any teaching.

The first thing to do in an attempt at education of this sort is to cover the fundamental principles of bookkeeping. These are really only three in number. The first is the distinction between debit and credit, and involves a determination for every entry of the exact responsibility which is involved in the transaction. The second fundamental principle is concerned simply with the kind of account which shall be debited or credited for each transaction; that is to say, not merely the name of the account but the use that shall in the end be made of that account in determining profit and loss and values at the end of any period. The third of these principles is concerned merely with the saving of labor in so arranging the books that the minimum amount of writing and turning of pages shall give the maximum information; this is done by providing special columns and special books for special figures, so that they may be handled in totals rather than in small details. When these three principles have been thoroughly mastered, one knows practically all there is to be known about bookkeeping. The remainder of the art consists in applying these principles to the specific conditions found in any particular business. No man can be familiar with all the bookkeeping forms which may be best for all lines of business, for the number is far too great. Yet a man with originality and judgment should be able for any business to devise a system on the three principles just mentioned.

When this preliminary study of bookkeeping has

been made we may pass on to take the accounting principles—both those which must be applied in learning the facts for the bookkeeping entries, and those which must be applied in interpreting the bookkeeping entries so as to give a final judgment about the profit and value of any business.





## CHAPTER II

### DEBIT AND CREDIT

As was indicated in the introduction, one of the three principles that cover the whole of bookkeeping is the fundamental distinction between debit and credit. It must be understood, in the first place, that in order to make properly a debit or a credit one must be sure of the point of view. If Jones buys goods of Smith, and has them charged to his account, on Smith's books they will appear in a fashion exactly opposite to that on Jones's own books; that is to say, Smith's books must show that the money is owed by Jones, but they do not read to show that it is owed to Smith, for Smith's books relate only, of course, to Smith's affairs; but the books of Jones must show that the money is owed to Smith, though they do not need to show that it is owed by Jones. The same transaction, then, will be entered differently when it is viewed from different stand-points, for always the books upon which it appears are the key note of the situation. Smith's books must show by whom the money is owed to Smith's business, and Jones's must show to whom money is owed by Jones's business. If, in making an entry on Jones's books we make the error of taking the point of view that belongs to Smith's books, we have misrepresented the facts. The first step, then, in

any entry is to see in what relation the transaction stands to the business covered by the books on which the record is to be made. It must be understood always that debit and credit are always relative,—that is, that their meaning is not known in any particular case until one knows on what set of books they appear.

The basis of all entries in the books of account is the accountability of the person or thing named. This accountability may arise from any one of several things, and it may imply either a duty to be performed by the business for the benefit of a person or thing named on the books, or a duty to be performed by an outsider, or by a special department of the business toward the business as a whole. A duty to be performed by an outsider, or by a department of the business itself toward the business as a whole, is always called a debit, and is made through what is called a “charge” to the account representing that person or thing. A duty to be performed by the business for an outsider or for one of the business’s own departments is always a credit. We, in common language, speak of a thing as creditable when we mean that it may be counted in the favor of the person or thing concerned. This is exactly what we mean when, in bookkeeping, we credit an account. We may credit not only when it is our duty to pay for the benefit that we have received, but also when we wish merely to record the fact that the account named has conferred upon the business a benefit which the business will keep for itself. Similarly, in bookkeeping, we debit an account representing a person or a department of the business not only when

the benefit, which the business as a whole conferred, must be paid for, but also when we wish merely to record the fact that the account named has received what the business sacrificed. So, in any case, a debit and a credit merely register the fact that an accountability or a responsibility has been recognized or transferred. Debit means that the account debited is responsible to the business either as a debtor to repay the sum debited, as a repository to account for property intrusted to it, or as a force explaining the sacrifice of property by the business. For illustration, to debit Jones is to indicate either that he must repay the money as a debtor, or that he has been paid something for a debt which the business owed him and so he must cancel the debt; to debit real estate is to indicate not that the money must be returned, but merely that somewhere in connection with the business real property should be found to account for the expenditure of the money; to debit rent account is usually to indicate that the business has sacrificed a certain amount of value because of the fact that men cannot normally use other peoples' property without paying for its use. Similarly, to credit an account is to indicate that the sum must be repaid by the business to the person or department represented by that account, or that the business must show what it has done with the property intrusted to it on that account, or that the business force represented by that account has conferred upon the business a benefit. Thus, to credit Jones is to indicate that the business owes him or that he has paid something which he owed to the business; to credit real estate is to indicate that the property has



surrendered to the business a certain amount of value; and to credit interest account is to indicate that the force in business which requires men to pay for the use of others' money has brought in income. To summarize this principle, then, we may say that when any transaction has occurred such that some person or department of the business or business force is responsible for property, whether for the receipt and care of that property or for the loss of that property, we should debit the account representing that person or department or force; when a transaction is such that any person or department of the business has conferred a benefit on the business as a whole—which is, of course, a creditable thing to do,—we should credit the account representing that person, department, or force.

With this general statement as a starting point, we may now pass on to illustrate the principle with a good many detailed cases and see how it works out in practice.

If we sell goods on trust, we wish to record on our books the fact that someone is responsible to make payment to us for their value. It is inevitable, therefore, that we shall debit someone, for a debit means that the person named in the title of the account is responsible or accountable to the business. It is customary in naming an account to indicate clearly who or what is connected with the responsibility indicated by that account. For instance, in the case just mentioned, we must give to the account a name which will indicate not merely the fact that this money is owed by a person, but also in what capacity that person owes the money. It may be



some other capacity than that of a private individual. If John Jones, for instance, buys goods as a trustee, we should debit not John Jones, but "John Jones, Trustee," to indicate that the claim is not against him as an individual but against him as a representative of someone else. If, on the other hand, he makes the purchase for a society, and has its authority to make such a purchase, we should debit the society itself; for to that society we may look for payment. If, again, the purchase is made by John Jones for the firm of John Jones & Company, care must be taken that the debit is made not to "John Jones," but to "John Jones & Company," for he personally is liable only in case the firm of John Jones & Company fails to pay. The books should show the legal relation between the business for which they are kept and the outside world.

The relations of a business are much more extensive, however, than merely with outsiders. Of course, looking at the thing in the simplest point of view, the total property of a concern less the claims against it is the present worth of the business as a whole; but if we have no figures on our books other than the total of the property and the claims against outsiders (less the claims which outsiders have against the business), though we may know what the business is worth, we shall not know where to look to find that value. Some of it may be in cash, some of it in merchandise, some of it in notes, some of it in real estate, and some of it, as we have seen, in claims against outsiders. If the books are to show the facts, they ought to show not only what claims we have against outsiders, which are, of course, the

same as property, but also what kinds of property there are in the business and what is the value of each kind.

This can be done only if we keep an account with each kind of property, indicating for every entry the value connected with each transaction. That is to say, accounts should show how much cash is on hand, what is the value of real estate, what is the value of merchandise, what is the face value of promissory notes, etc. It happens that these facts can be very easily recorded by treating various departments of the business itself as if they were actually individuals outside the business. For instance, if we treat the cashier's department as if it were an outsider, or as if the cashier were an outsider who had relations with the business, we can show the amount of cash received, for we can charge or debit cash account as responsible for all money entrusted to the cashier exactly as we should charge an outsider for money paid to him; and if we credit cash account for all money paid out, just as we should credit an outside person who supplied us with cash, the total credit will represent the payments. The difference between the two sides will show the amount of cash that ought to be on hand. In other words, though the cash drawer is a part of the business, we can best get the figures that we want by treating it on the books as if it were an outside person.

Similarly, if we debit merchandise account for all goods purchased, treating it as if it represented an outside warehouse which we had entrusted with goods, our total debits to merchandise account will

show the amount of purchases and by so much the amount which the warehouse must be able to account for to the business as a whole; and if we credit merchandise account, representing the warehouse, exactly as if it were outside, the total credits to merchandise account will represent the amount which the warehouse has surrendered. The balance will be, if we have debited and credited all goods at the same price, the balance of merchandise that should remain in the warehouse. So we can, by treating departments of the business as if they were responsible for property exactly as outsiders are responsible, secure figures which shall show in detail the distribution of the property of the business through its various departments. When, therefore, as assumed a moment ago, we debit John Jones, or John Jones, Trustee, or John Jones & Company, for the sale of goods, we should also credit Merchandise; for the warehouse, represented by the merchandise account, has given up to the business merchandise which has now passed over to John Jones. So, in effect, what has happened is that whereas previously merchandise account, representing the warehouse, was responsible to us for certain value in merchandise, now that responsibility has been taken by John Jones and the warehouse has given it up. The books show this exactly as it has happened. There is no longer a responsibility, so far as this merchandise is concerned, on the warehouse account, but one attaches to the account of John Jones.

One class of accounts representing relations within the business still remains. Sometimes we make payments or receive property in return not



for other property, such as exchange of merchandise for cash, but on account of some force in business which causes profit or loss. For instance, if we borrow money we are pledged to pay interest for its use. When we pay that interest we pay it not for a thing which can be seen or touched, but merely because there is in our civilization a force which requires us to make a payment for the use of other people's property. This payment of interest has not affected the amount we owe on the original loan. If we borrow \$1,000 with an agreement to pay six per cent. interest, we pay at the end of two months, when the money becomes due, \$1,010, of which \$1,000 is a repayment of the original sum and the \$10 represents no repayment but a mere compensation for the use of the \$1,000. Obviously, this \$10 cannot be debited to any of the accounts that we have previously considered. It cannot be debited to the man who lent us the money, for he is under no obligation to return it or to account for it. We have owed it to him because of using his thousand dollars, and when we pay it we simply meet our obligation. To debit it to him would be to tell a falsehood on our books, for it would imply that he is now responsible to account for that \$10, and he is not. We cannot, on the other hand, debit that \$10 to any property account, such as those discussed in the last paragraph, for that \$10 does not to us represent any property; it is not cash, nor merchandise, nor real estate, nor notes. It has simply disappeared in consequence of the fact that men must pay for the use of other people's property. The same sort of thing is true with regard to payments of rent, of taxes, of wages, of postage; indeed, it is



true of all payments for which we do not get property in exchange.

If we did not care at the end of the year to know anything more about our profit or loss than the amount of such profit or loss, there would be no need of keeping record of these payments, for, as has already been indicated, the difference between our property and claims at the beginning of the year and the property and claims at the end of the year indicates the profit; but if we wish to know from what sources our profits have come, and for what reasons we have suffered certain losses or certain expenses, it is necessary for us to keep a record through the year of the particular forces which have brought income or have caused us to suffer loss and expense. We can keep such records by a process similar to that of keeping account of our property. Remembering that "debit" means that the account named and debited is responsible, we see that to debit one of these force accounts such as Interest is to hold that force responsible or accountable for the loss of property. Although it is not true that those forces can usually return to us the property debited, it is true that those forces are responsible for the loss in the sense in which we commonly use "responsible" in everyday talk. We commonly say that the cold weather is responsible for prevalent sickness, or trusts are responsible for high prices. We can very well use "responsibility" in this sense for bookkeeping purposes; and so we make record of the fact that a loss of cash is due to that force in business called "interest," and we debit Interest even though we do not expect that force to return the money. In

other words, a debit to Interest in this fashion is simply a record of the explanation of the loss of cash, and all debits and credits to such accounts are of the nature of explanations. As has already been suggested, we desire to know at the end of the year not only what our profit or loss has actually been, but what were the sources of profit and the causes of loss.

Obviously, if we had done nothing throughout the year but exchange property of one sort for property of another and of the same value, we should neither have made profit nor suffered loss. If profits or losses have resulted, something different from mere exchange at the same price has occurred. We desire to know not only what exchanges have taken place, but also why there has been a difference of value between the property given and the property received. Accounts can furnish us just the desired explanations. Under the head of Interest, for instance, they can give figures showing how much cash went out and came in for interest, which is not a tangible thing—though the use of the money borrowed or lent may have made possible a profit which will be registered finally in some property account. Similarly, if we have bought merchandise at one price and sold it at another, the difference between the two prices may be shown in some explanation account.

It will be noted that these explanation accounts never represent value. They show only an amount of *change* in values. When we paid cash for interest, we were giving something of tangible value in return for a thing which for that particular moment of exchange brought nothing in return—though its use

in the past may have brought profit registered in some other account. In the case of a purchase and a sale of merchandise, as we have seen, Merchandise should have been debited for the goods purchased, at the cost price, and credited for the goods sold, at the selling price; the difference between these two amounts will be the profit which must be recorded in some explanation account. Let us say that cash was paid for merchandise bought, and was received for that sold. We can show the meaning of the explanation account by supposing both purchase and sale to take place at the same time. Our entries then will be—

Merchandise, Dr.,	\$3,000	
To Cash, Cr.,		\$3,000
Cash, Dr.,	3,500	
To Merchandise, Cr.,		3,000
To Profit & Loss, Cr.,		500

These three accounts show that merchandise to the amount of \$3,000 was received and charged to the warehouse, and later the warehouse surrendered \$3,000 worth of merchandise and was accordingly credited; that cash to the amount of \$3,000 was paid out, and later cash to the amount of \$3,500 came in and was debited to the cashier's department; and, finally, that the difference between the \$3,000 cash going out and the \$3,500 cash coming in is explained by the profit and loss account representing gains and losses from the forces of business. In practice, it is common to keep a good many separate accounts for profit and loss, each indicating some special sort of gain or loss, such as interest, rent, insurance, taxes, wages, postage, commissions, stationery, printing,



cartage, freight, etc. Some of these represent expense, and are usually debited as responsible; and others represent earnings, and are usually credited as conferring benefit on the business—a creditable thing to do.

We have seen, then, three kinds of accounts—first, with persons, partnerships, corporations and others, who are entirely outside of the business and have relations of responsibility or accountability with it, in which they are responsible to the business or it is responsible to them; these are usually called personal accounts: second, accounts representing various departments of the business which contain property belonging to the business, such as merchandise, real estate, cash, bills receivable, etc.; these are usually called property accounts: these two classes together are usually called real accounts: third, accounts representing forces which cause profit or loss, explanatory of changes in value, such as interest, insurance, taxes, etc.; these are usually called nominal accounts, for they represent forces, or names, rather than things.

When one stops to think of it, one sees that it is impossible ever to have a debit without the need, if the books are to be carefully kept, of a credit somewhere to correspond. We have seen that all transactions are either mere exchanges of one kind of property for another, or payments or receipts of property because of one of the forces in business which calls one to get or give more or less than the exact equivalent. If we do not exchange dollar for dollar, which, of course, yields no profit or loss, we are giving more or less, and therefore, getting profit or suf-

fering loss; and one of the purposes of our accounting is to show not only what we get and give, but why we get and give it. If there has been an increase or a decrease, some one of the forces which causes increase or decrease has been at work, and our books should show which cause was responsible for the loss or creditable for the gain. It is necessary, therefore, that when anything is debited as responsible for value, something else shall be to the same amount credited for furnishing either the value which was exchanged or the force which caused the increase in value; and it is similarly necessary that when anything is credited as yielding value, something else shall be debited as either taking guardianship or explaining the origin of the loss. For instance, if we credit Cash for a payment of money, we must debit the person receiving the money, the account representing the property purchased with the money, or the account showing the money lost; if we fail to do this we have not recorded all the facts worth knowing. Similarly, if we debit Cash for money received, we must credit the person furnishing the cash, the property account which gave up the property sold for the cash, or the nominal account which explains through what force the cash was earned. This is the origin of double-entry bookkeeping. This is all that is meant by double-entry bookkeeping—namely, that for every debit there is a credit of the same amount to some one or more accounts; otherwise, the origin of the debit has not been shown and the books fail to record all they should. Single-entry bookkeeping, on the other hand, attempts to record usually only the relations of the busi-

ness with outsiders, and gives no information about the sources of profit or loss—and sometimes gives practically none about the kinds of property in the business. Since practically all business records which profess to seek accuracy must, from the nature of the case, be kept by double entry in order to tell all the facts, it is to double entry that we shall devote our attention here.

Let us summarize, finally, our conclusions with regard to debit and credit. To debit is to indicate that the account named, which must represent persons, property, or a force, is held by the business responsible for the amount of value indicated by the entry. It does not necessarily mean, however, that the amount is to be repaid; for in the case of a personal account, a previous credit may have indicated that the money was already owed and this debit now shows merely that the matter is closed, and in the case of a nominal account, the business does not expect the value to be returned because it is recognized as one of the definite expenses or losses to be offset against gains at the end of the year. A credit, on the other hand, is an acknowledgment that the account named has conferred certain benefits for which it is creditable. It is not true, necessarily, that the business must ever pay for those benefits; for a credit to a personal account may simply offset a debit previously made, and indicate only that a debt incurred toward the business has now been paid, or, in the case of a nominal account, it may indicate that this force has brought into the business certain income which the business will keep as its own profit.



## CHAPTER III

### THE METHOD OF ENTRY

It would be possible to keep books in the form of a diary written in narrative form, just as it is possible for a person to make detailed financial statements by word of mouth. It is obvious, however, that, though the facts might be all contained in such a narrative, drawing conclusions from those facts would be extremely difficult. If, moreover, one should happen to miss some important fact in drawing one's conclusions or in making a settlement with an outsider, the record might just as well be faulty as to be correct, for an item missed is, for the purpose in hand, an item lost. It is essential, then, that the figures shall be brought together so that all items relating to the same thing may be added together or subtracted one from another to produce a correct total or balance. The ultimate destination of all figures in bookkeeping, then, is a book in which the items may be classified according to their relations. This book is in practice always called the "ledger," and it is so arranged that each account has a page (or several pages, or a portion of a page) to itself, and all debits are written in the left half of the space and all credits in the right. The ledger must recognize the principle, stated in the last chapter, that the debit shall be to a title

expressing the exact relation to the business, and not confuse "John Jones" with "John Jones, Trustee," or with "John Jones & Company." There may then be three accounts in the ledger all of which represent the relations of the business with John Jones, but each will represent him in a capacity somewhat different from any of the others. By an "account" we always mean the items to be brought together in the ledger, and hence if for any reason we wish to distinguish items which are apparently of the same sort, we may open separate accounts in the ledger lest they be confused; but always the title finally chosen for any account should be used throughout all the books for all items to be carried to that account in the ledger.

Since the ultimate destination of all figures is the ledger, we must arrange our books in such fashion that we shall at the same time make clear the meaning of the original record, which is good legal evidence of facts, and keep the items in such form that they can be easily transferred to the ledger without risk of omission or confusion. This is usually accomplished by making every entry in two parts: one is a statement in rough diary form giving the history of the transaction so that it shall be clear to everyone reading it even though he is unacquainted with the transaction itself; the other is a brief summary which gives the names of the accounts to be debited, the names of the accounts to be credited, and the amounts for each. In the old days, these two portions of an entry were customarily kept in separate books, the first of which was

commonly called the "day book," and the second the "journal." As a consequence, the brief summary formerly kept in the journal has come to be called the "journalization." Its purpose is to serve as a medium to assist in transferring from the diary form of the original record to the classification in the ledger, i. e., in "posting." This journalization would be entirely unnecessary if it were not for the fact that often a transaction is so complicated that, in attempting to transfer items to the ledger, i. e., to post, from the diary form, one is in great danger of omitting some item from either the debit or the credit side, or of neglecting some portion of a divided item. For instance, if we give cash to pay a bill and to pay a note at the same time, the entry may include a debit to our creditor for the amount of the bill, a debit to Bills Payable for the amount of the note, a debit to Interest for the interest on the note, a credit to Cash for the amount of cash paid, and a credit to Discount for the amount of discount allowed on the bill; that is, though on the face of it we have only to debit Bills Payable and the creditor, and to credit Cash, we have really in addition to get upon our ledger a debit to Interest and a credit to Discount. It would be practically impossible for any bookkeeper to make such postings from a simple diary form of statement and keep up the process hour after hour without many errors of commission or omission. The security against this is journalization of entries in summary form. Such a transaction as that just described might be entered in a modern journal as follows:



Paid John Doe today his bill of November 18, less 2% discount, and our note dated October 18, with interest, at 6%.

John Doe	\$200	
Bills Payable	300	
Interest	3	
To Cash		\$499
Discount		4

As a matter of universal custom, debits are written in the journal in left columns, and credits in right.

The form of entry just illustrated makes it possible to keep all details of business transactions in a form not only clear for a statement, but, at the same time, if the amounts stand out prominently, ready for use in posting to the ledger; so far, they are quite as good as any bookkeeping forms need to be. In reality, however, many devices have been invented for simplifying the labor of making and finding and interpreting entries and of posting from the journalization to the ledger. For instance, it is a great convenience to have all cash items together, not only in the ledger but in the books of original entry, so that all explanations of just what was done with cash and why it was received shall appear together. This is usually done by providing a book into which nothing shall go but cash transactions. Similarly, it is convenient to have together in one book all sales of merchandise, and this is the custom in all but small businesses. The title of such a book is usually the "sales book." Purchases are very commonly also kept in a book by themselves, which may be called the "invoice book" or the "purchase book."

It can be readily seen that if items of one sort are kept together, as in a cash book, a sales book, and a purchase book, the labor of posting may be very much simplified. When we make entries in the journal form just described, Cash must be debited by a posting to the ledger for each cash receipt and must be credited by a posting to the ledger for each cash payment; and at the same time a credit posting must be made to some other account for each debit to Cash, and a debit posting must be made to some other account for each credit to Cash. In other words, fifty receipts of cash would mean one hundred postings—fifty debits to Cash and fifty credits to other accounts; and fifty payments of cash would mean one hundred postings—fifty debits to other accounts and fifty credits to Cash. When, on the other hand, we keep all cash items in a book by themselves, we do not need to post to the ledger each individual debit and credit to Cash, but may hold back the postings to Cash in the general ledger as long as we like, provided only we realize all the time that the total of all cash receipts is a cash debit and the total of all cash payments is a cash credit which ultimately must be considered in judging the business. Indeed, if we like, we may wait until the end of the month before we post any item to Cash, and then we may post to each side of Cash the total for the month of all items on that side, instead of the fifty or more separate items to each side. We still have, however, to post the other half of all cash entries,—that is, the debits to other accounts, to explain why cash went out, and the credits to other accounts to explain why cash came in. We have not

reduced the labor of posting any account but Cash, but we have reduced that from say fifty postings a month to one. Similarly, if all our Merchandise debits are in the purchase book, though we must credit in the ledger each seller with what we have received from him, we do not need to post the debit to Merchandise item by item but may hold back those postings until the end of the month, or such time as we please, and then post them in total as the footings of the page or pages of the purchase book. With the sales book, similarly, the total of the book is the credit to Merchandise, and it may be posted in a lump sum; but the debits to customers must be posted item by item.

It is obvious that with a separate book for cash, for purchases, and for sales, our original book of record, the journal, has shrunk to rather insignificant dimensions. The journal still serves an important function because items of interest, discounts, transfers from one account to another, and all other transactions which are not directly cash or merchandise, must go upon its pages.

It is now worth while to observe the forms which are in common use. The journal, nowadays rather insignificant in size, though very important with regard to the kind of items which it contains, may be of numerous forms, equally good in theory, but each good or bad according to the needs of the particular business in which it is used. There is, in fact, no such thing as an absolutely right or absolutely wrong form anywhere in bookkeeping. Any form is right which states clearly the transaction. The choice between forms is determined by the ease with which



each can be handled, and that is determined not merely by its adaptation to speed in making transfers or postings to the ledger, but by its provisions against confusion. The form given above, on page 36, in which we have first the detailed description of the transaction and then the journalization, is logically the best, for the journalization or summary statement arises out of the detailed description of the transaction. In practice, however, it is usually found a little less convenient to handle than the reverse form, in which the journalization is stated first. The difference lies simply in the fact that items to be posted stand out more distinctly at the beginning of an entry than when they follow an explanation. Some bookkeepers may find the first form for their particular eyes more easy to work from. Another form very convenient is one in which the journalization stands in a column parallel to the explanation. This form often saves the rewriting of figures and of names, for the journalization may follow line for line the explanation to which it belongs. Its defect is sometimes awkwardness of arrangement. An illustration of the second form will be found on page 75, and one of the third form on page 41. It should be clearly understood that there is no difference in desirability between these forms except as one of them may prove for any particular bookkeeper easier for him to work from. Usually, in all forms, a blank line, or a line used only for the date, is left between entries. This arrangement makes clear to the eye just how much is comprised in each entry.

It was common many years ago, and some book-

keepers still keep up the custom, to use the term "Sundries" on a journal whenever more than one item appears on either debit or credit side of an entry. If, for instance, we have a debit to customers and a credit to Merchandise, the entry would normally be made to read:

Sundries		
To Merchandise		500.00
David Hume	250.00	
Edward Gibbon	250.00	

This means that the debit is not to one account but to two, and that the equality between debits and credits must be looked for not between the credit and any one debit, but between the credit and a group of debits. The same sort of thing would be true if the matter were reversed. Indeed, the entry may read even "Sundries to Sundries," when on both sides appears more than one item. Such, for instance, would be the case if we had given cash as well as merchandise to Hume and Gibbon, as follows:

Sundries		
To Sundries		
David Hume	500	
Edward Gibbon	600	
Cash		600
Merchandise		500

The details would, of course, be explained in the day-book portion of the entry, indicating how much cash and how much merchandise was given to each.

An illustration of the parallel-column form of journal, without the use of the term "Sundries," is given below. It may well be compared with the original form given on page 36.

## [JOURNAL—Parallel-column form]

DEC. 18.

John Doe	His bill of Nov. 18	200	00	
Bills Payable	Our note of Oct. 18	300	00	
Interest	On note of Oct. 18	3	00	
To Cash	Paid as above			499 00
To Discount	Less 2% on the bill			4 00

It is obvious that when we turn to the cash book, which, as was just indicated, contains only cash items, it is unnecessary to provide a complete journalization. The fact that the item appears upon the cash book sufficiently indicates that Cash is either debited or credited. If we divide the cash book itself into two parts, using left pages, as the book lies open, for debits to Cash, and right pages for credits to Cash, we have by the mere choice of pages indicated which are cash receipts and which cash payments. The only journalization necessary, then, is an indication of what account is to be credited when Cash is debited, and what account is to be debited when Cash is credited. The journalization is now so simple that we have only to make a statement of the origin of the receipt and the purpose of the expenditure. In order to avoid the possibility of abuse of the cash book, misrepresenting the amount of cash by inserting items out of place, it is desirable to use only one line for each entry. Then there will be an amount carried out in the money column for each line, and the possibility of inserting amounts falsely for the purpose of manipulating the cash balance is removed. Many defaulters have taken advantage of loop-holes left in carelessly kept cash books to make insertions which covered up amounts abstracted. Only when entries are confined to one line



can one see at a glance that nothing is perverted. The form of a double-entry cash book is shown below. Since receipts are always written on left pages, as the book lies open, and disbursements on right pages, the balance on hand is readily shown by subtraction of totals.

## [CASH BOOK]

## RECEIPTS.

Jan. 3	John Jones	Bill Dec. 26 paid	540 00
8	Richard Hoe	On account	273 50
12	Bills Receivable	Note of Wm. Brown No. 14 Paid	5000 00
	Stationery	Envelopes	5 25
15	Peter Smith	Bill Jan. 5 paid	1125 00
22	Bills Payable	Borrowed on our note with interest	1000 00
28	Freight	Fr't on ship't to Rice & Co. repaid	12 75
	Cash, Dr.		<u>7956 50</u>

## [CASH BOOK]

## DISBURSEMENTS.

Jan. 2	John Doe	Paid his bill Dec. 26	725 00
9	Henry Esmond	" " " Jan. 1	370 20
14	Dombey & Son	" their " Jan. 7	851 70
15	Bills Payable	Paid our note of Nov. 15	1500 00
20	Stalky & Co.	" their bill of Jan. 11	110 00
31	Rent	Rent for month of January	125 00
	Commission	On sales made by Samuel Sanders	41 75
	Cash, Cr.		<u>3723 65</u>

The purchase book and the sales book are commonly similar to each other in form. The only difference between them is that the purchase book contains credits to all creditors and debits to Merchandise, whereas the sales book contains debits to all customers and credits to Merchandise. All that is necessary in the way of a record for each transaction is a statement of the creditor's or customer's name, a statement of the terms of purchase, and a list of the goods with the amounts. These amounts are carried out into the money columns with all discounts subtracted before the final extension, and at

the end of the week, month, or other desired interval, the total is taken to be posted to Merchandise. The precaution that no discounts shall be allowed to get into the extension columns is important; for, otherwise, the total for Merchandise, which is the total of the column, would include not only the net amount of the bill, but the amount of discount, and sometimes the full amount of the bill before the discount was taken off. This would magnify the debit or credit to Merchandise and throw the books out of balance and out of accord with the truth. A common form is shown below.

## [SALES BOOK]

John Nicholson	Jan. 2.				
	Terms 30 d.				
	100 lbs. Coffee	25	25 00		
	40 lbs. Tea	50	20 00		
	50 lbs. Flour	6 00	300 00		
	20 lbs. Chocolate	36	7 20		
	330 lbs. Sugar	05	16 50		
			368 70		
	Discount 5%		18 43	350 27	
	4.				
Peter Ibbetson	Terms 6% 10 d.				
	5% 30 d.				
	500 gal. Molasses	50	250 00		
	1500 lbs. Sugar	04½	67 50	317 50	
Thomas Jones	5.				
	Terms 30 d.				
	10 bbls. Flour	6 00	60 00		
	50 lbs. Coffee	25	12 50		
	200 lbs. Tea	50	100 00	172 50	
Merchandise, Cr.				840 27	

Two purposes are to be served in making entries in books. The first is to have a complete record of the transaction which, in any matter of dispute, may be used as good evidence in a court of law; the second is, as has been suggested, to make easy the arrange-

ment of items in the ledger so that they shall show the balance for any account. We have been concerned so far chiefly with the second of these purposes. It remains to note that the first is even more important. Many bookkeepers spend a good deal of time in trying to interpret their own entries because they have forgotten the circumstances under which the entries were made, and have left their record in such form that many important elements in the transaction are not shown. A record to be satisfactory should show about every transaction absolutely every detail that can ever be a matter of consequence to know. If, for instance, a transaction is a sale of goods on an order, the entry should show the date of the sale, the date of the order, the person from whom the order was received, the number of the order, the amount of each kind of goods with the specific name or quality, the price agreed upon, with any discounts that may have been offered, and, if the goods are shipped away, an indication of the method of shipment,—such as the number of the packing-case or the initials and number and destination of the car, and, if the goods were consigned to anyone different from the customer who orders them, the name of such consignee. Similarly, if money is received in payment of a note, the entry should indicate just what note it is meant to pay, and, if the notes are not listed by number in a separate book, the entry should show the date of the note, the maker, the endorsers, the time, the amount, and the interest, if any. If the entry is based upon any calculation, such as a percentage of discount, it is advisable to indicate the calculation on the entry itself in order that it may



bear upon its face evidence of its own correctness. Otherwise, if questions ever arise as to the correctness of the calculation, all must be done over; and in the end it is cheaper to write the calculation in each entry than it is to recalculate the many entries which commonly require examination.

Errors are bound to occur from time to time, and, therefore, care should be taken that the corrections do not cast suspicion on the genuineness of the record. A posting error may be corrected by scratching, for since the ledger is not a book of original entry and is legal evidence only so far as it is assumed to be a proper transcript of the original entry, erasures are not serious. We should not, on the other hand, ever erase a figure in an original entry unless that figure is sufficiently proved by its context. For instance, if we, in making an entry crediting a personal account for goods purchased, put a wrong price and then scratch not only the price but the extension of the amount and the total of the bill, we have opened to suspicion the whole entry. In the nature of the case, there can be no evidence that the change was not made at a later date for the purpose of committing fraud. If, on the other hand, the error is discovered before the extension has been made and only the price is scratched, the fact that the extension is unchanged and that the total amount of the bill is unchanged is evidence of the correctness of the price, for only that price could have produced the final result. Similarly, even though we have made an error in an extension, if the price is correct and the total amount of the bill is correct, it is obvious that the scratching of the extension is of no

account; for if the other items in that bill are unscratched, a subtraction of the other items from the total proves the correctness of that extension. If, finally, an error is made in entering the total of the bill, it may be corrected by scratching, because if the individual items of the bill remain unscratched the total is vouched for by simple addition. Usually when a change must be made it is wiser to leave the original figure standing, to draw a line through it and write the correct figure above, than to erase it entirely; for if the original figure standing there is obviously incorrect and the figure above is the only substitute for it, we see at a glance why the change was made and accept it without question. If the original figure had been erased, however, no one could tell what was there originally, or why the change was made. In cases where it is impossible for the context to prove the correctness of the figure put in after an erasure, corrections should be made not by any erasure but by a new or counter entry.

Whatever error is made in an original entry, if only the debits are equal to the credits, a proper counter entry will correct it. If, for instance, we credit Cash for more than was paid, we may, by entering the amount of error on the other side of the cash book as if cash was received, produce the balance of truth. If we charge too much for merchandise sold, we can make a correcting entry by debiting Merchandise and crediting the customer for the difference. If we debit too much to Interest, consequently crediting Cash too much, we may credit Interest and debit Cash for the amount of error. The method of making such corrections is usually to mark

the original entry very plainly, sometimes in red ink—unless one objects to advertising one's errors conspicuously,—with some such words as these: "Error; for correction see p. 27, Jan. 10." Then in the first available space one should make a new entry, debiting and crediting the proper accounts not for the original corrected figures, but for the amount of alteration necessary to produce, with the original incorrect entry, the true result. The explanation should be somewhat as follows: "To correct error of p. 17, Dec. 21, 5c per yd. overcharge in price, to Andrew Jackson." When this new entry has been posted, the balance of the accounts concerned is as it should be.

Suppose, for instance, we have credited Bills Receivable when we should have credited Bills Payable. The erroneous entry reads, perhaps, as follows:

Cash	1000	
To Bills Receivable		1000

Since the Cash is correct it will not be affected by the new entry, which should read as follows:

Bills Receivable	1000	
To Bills Payable		1000

This debit to Bills Receivable will correct the erroneous credit, and the credit to Bills Payable will accomplish what should have been done in the first place.

The substance of this chapter may be summarized briefly. Entries should be made in what are called books of original entry in such form that full information about every transaction is shown clearly,



and the arrangement of the entry should be such that it is easy to transfer the desired figures from that record directly to the ledger,—which contains a summary, classified by accounts, for all transactions. Original entries are commonly made in a cash book containing only cash transactions, a purchase book containing only purchases, a sales book containing only sales, and a journal containing every transaction which cannot go into any one of these three other books. The cash book, purchase book, and sales book, serve not only as a convenient means of posting cash and merchandise in totals at intervals, but also of posting proper debits and credits to the other accounts concerned in the transactions with cash and merchandise; that is to say, we use the cash book, for instance, not only for debits and credits to Cash, but for credits and debits to the other accounts concerned when Cash is debited and credited. The ledger, on the other hand, is not a book of original entry, and has no legal value except as it is taken to represent a correct transcription of original records, and its only function is to bring together the items relating to the separate accounts. No erasures should be made in any figure that cannot be easily proved clearly correct from other figures that are intact. Any necessary changes should be thoroughly explained.

## CHAPTER IV

### THE COMMON LEDGER ACCOUNTS

We have so far noted the distinction between debit and credit, and the simple forms of entry. Quite as important as proper debiting and crediting, however, is proper choice of the account to which a debit or a credit shall be made. We have seen that accounts are of three classes—with persons, with property, and with forces. It is obvious that if we make the error of debiting to a force, which can never repay, an amount that ought to be debited to an individual, who must repay, our books are misleading. If, again, we debit to a property account, as if the value were on hand, what ought to have been debited to a force account, as an explanation of loss, we are overstating our possessions. If, again, we credit one force account when we ought to credit another, we may mislead; if, for instance, we credit Interest—when he ought to credit Insurance—for an amount allowed on the cancellation of an insurance policy, though we have not misstated the amount of our property we have misstated the source from which some of our property has come; that is, we have made the record indicate that we have earned as a clear profit a sum which in reality was merely a repayment of an insurance premium vainly

paid. Such an error misrepresents to us not only our actual earnings by lending money, but also the expense of insurance; and if we are to use our figures in drawing conclusions as to the subsequent conduct of our business, we shall be misled unless the item is small. This matter of deciding to what ledger account each item shall be carried, therefore, is of great importance.

It is worth while to examine with considerable care the commonest of the ledger accounts and determine just what each should represent. It is to be noted, however, that the important matter is not that any hard and fast rules shall be followed, but only that the bookkeeper himself shall know what the account on his own ledger means in the case of his own business. Names are of no consequence anywhere if only the people who use the names always know exactly what is meant by the name used. It would matter not at all, for instance, if all English-speaking people were to agree that what previously has been called an "apple" should hereafter be called a "table," and that what previously had been called a "table" should hereafter be called an "apple." To read, then, that a man ate a table and wrote at an apple would confuse no one, and a man indeed may in his own memoranda kept for private purposes transpose these two terms with perfect freedom and without danger of confusion if he only remembers exactly what he means by each. So in bookkeeping the title of an account is of no consequence if only those who are to use it know what use is made of it under that title; but since accounts are commonly read by others than the makers, it is wise



to follow common practice lest there be misunderstandings. Above all else, since accounts are likely to be called into court, unusual uses of terms may lay one open to suspicion of attempt at fraud, and should be avoided.

The most obvious account with which all business is concerned is Cash. (Hereafter, when a common noun, like "cash," is used with a capital letter, it will be understood that the name indicates not the thing itself but the name of the ledger account which is to represent it.) To Cash is usually carried not only actual money in hand, such as silver, gold, and legal paper money, but also checks and money orders. Checks and money orders are included because they are supposed to be convertible at sight into the actual legal money; and, therefore, it is not worth while to distinguish on the books between them and currency. As a matter of fact checks are not usually turned into cash but are deposited in banks, where they go to swell the cash balance without any handling of specie and bills. Bank balances, also, are usually considered as cash because bills can be paid with them as readily—usually more readily—than with the actual money; and although some business houses keep a separate account for bank balances, most houses make no such distinction. When it is desired to make such distinction, it is easy to provide a special column in the cash book for bank balances as distinguished from legal money. Two items which might readily be confused with cash but should not appear on the cash account are promissory notes and drafts. These are only orders or promises to pay, and cannot in any proper sense be deemed cash until

the payment has actually been made. It is true in a sense that a bank check is only an order to pay, but since the order is on a bank whose business it is to make payments on the orders of its depositors, the normal condition is one in which the check is as good as money and is as readily used in making payments. The courts, moreover, have given checks special protection so that they may be considered money, and a man who issues a check without money behind it is guilty of obtaining money under false pretenses, which is an offence with a very heavy penalty attached. Inability or unwillingness to pay notes or drafts, on the other hand, is not legally an offence: the only penalty is a loss of credit; and, therefore, such evidences of debt are nothing more than claims similar in nature to debts due where no document has been given.

The account representing promissory notes is Bills Receivable. This account does not include claims, against customers or others, unless evidence has been given in the form of written promises to pay money when due. Of course, if money is owed to a business by a customer, the books must somewhere show the debit to that customer, and such a debit to him indicates that he has not made payment; but if he has given written promise to pay, in the form of a promissory note, he has made payment of the original debt. He has given the business an equivalent for the goods purchased, and the business will collect from him, if he is solvent, not for the goods but for the note. If collection must be made through the courts, the business holding the note does not have to show just what is the origin of the

obligation, but must sue on the note, for the note is itself evidence that the obligation exists—but it is at the same time evidence that the original debt no longer exists. In other words, the note is itself property which has paid for the merchandise. The business, then, has no longer any claim against its customer for the goods sold him, and must not have any debit against him on its books. So Bills Receivable represents property as distinguished from claims; and this is true in part because promissory notes may be bought and sold and transferred from hand to hand just as can merchandise or cash. The purpose in maintaining an account on the ledger with such notes is to show exactly how much of this kind of property—promises as distinguished from money, and property as distinguished from claims—is in the possession of the business.

To this account are carried also drafts after they have been accepted by those upon whom they were drawn. The common transaction for a draft is that in which a man to whom money is owed draws a paper ordering the man who owes him to pay, usually to a third person, the sum of money owed. The person who is ordered to pay is under no legal obligation to make payment in this way unless he chooses. If he is willing to pay, he indicates his willingness by writing the word “accepted” and signing his name across the face of the draft. Until he has done this, the order to pay is nothing but worthless paper,—unless, indeed, it is what is called a sight draft demanding immediate payment, and even then, of course, the person ordered to pay is under no obligation to make payment in this form unless he is so



inclined. It is not customary, therefore, to make any entry on books, except by way of memorandum, when a draft is drawn ordering somebody to pay to a third person for the benefit of the business. As soon as such a draft is accepted, however, the drawee, or person ordered to pay, has given his written promise to make payment in due season, and this is exactly identical in nature with a promissory note which he might have drawn in the ordinary form. Since, then, there is no distinction in nature between an accepted draft and a promissory note, such drafts are always included with the notes as making up the body of Bills Receivable.

Bills Receivable should be debited for only the face of notes and drafts held. This account should represent property and ought, theoretically, to remain unchanged for any one note so long as that note is unpaid. When a note bears interest, however, the claim which the holder of the note has against the signer is not merely for what is called the face of the note—that is, the amount written in as dollars and cents—but also for an additional sum, or interest, which is a certain percentage of the face value. It would be possible to let Bills Receivable represent not only the face of such notes but also the amount of accrued interest. To do so, however, would mean that if we wished Bills Receivable to represent the true value of notes at all times, we should be obliged every day to figure interest on all interest-bearing notes that we held and add that as a debit to Bills Receivable. This would involve a large amount of labor in businesses handling many notes. A simpler method is to debit Bills Receivable for

only the face value of notes, and to make record of the interest only at the time that interest is involved in some transaction,—or whenever the books are used in figuring profits at the end of an earning period, as at the end of the fiscal year. So far as the books are concerned, then, in this matter of Bills Receivable there would appear no difference between a case in which a note was received bearing interest and payable in six months, and one in which a note had been held for three months without bearing interest, even though the note had been made three months before the time it came into the hands of this business. To summarize Bills Receivable, then, we may say that the balance of this account represents simply the face value of written promises held by the business, either so-called promissory notes or accepted drafts.

In this connection, before we pass on to Bills Payable, which is the converse of Bills Receivable, it is well to note the relation of Interest to Bills Receivable. Many persons unfamiliar with business find difficulty in realizing what is the *actual* value of a note, assuming the maker of the note to be solvent, as distinguished from its *face* value. One thing is necessary to understand at the start, viz., that a note is a promise to pay a definite sum of money, neither more nor less, and at a definite time. If the note reads, "Two months from date I promise to pay to John Doe \$5,000," it is a claim enforceable two months from date for \$5,000 and for no more. If the maker of the note had promised to pay \$5,000 and interest, the note would have read "\$5,000 and interest." Without a direct stipulation that interest is

to be added on the expiration of the time named, no interest can be demanded. Yet it is a commonplace of business experience that one cannot use other people's money without paying for it in one form or another. If, then, the maker of a note has not promised to pay interest, the note is not until the day of maturity worth the amount written on its face. A note payable two months in the future is one requiring the owner to wait two months for payment. No one in a business transaction would accept such a \$5,000 note as a \$5,000 payment. Such a note would be accepted, when interest is at six per cent., for only \$4,950, for the discount is \$50 for two months. Under one condition, however, it would be taken at face value,—i. e., in case the \$5,000 payment itself is not due for two months. If, for instance, I have bought goods in a trade where it is customary to allow purchasers two months in which to make payments, and I pay for those goods with a note payable in two months, I am making proper payment; for the money named in the note becomes due on the day when I should pay for the goods. Even here, however, if the firm receiving that note from me in payment of their goods now wishes to make use of that note in its business—if, for instance, it wishes to borrow money on that note from a bank,—it cannot expect to sell the note for \$5,000, for whoever lends the money will be forced to wait two months for its payment and then he can collect not \$5,000 with interest, but only \$5,000 straight. The value of that note today, then, is not \$5,000, but only \$5,000 less discount, and the discount is equivalent to the interest



for two months.\* If now we take the case of a note bearing interest, we shall find the circumstances very different. Suppose I buy goods in a trade in which payment is expected at once. If it is inconvenient for me to make such cash payment and my credit is good, I can probably persuade those from whom I buy to accept my note promising to pay the \$5,000 in two months, provided I make the note to read "with interest." They will then have a claim against me at the end of that time not only for the original \$5,000, which I should normally have paid at the time of purchase, but for compensation in the nature of interest for the delay which they have suffered in making the collection. If they do not wish to wait, before using the money, until the two months have expired, they can sell that note to someone else who will pay for it in cash; and the value of that note to the purchaser will be not only the full face value written on the note on the day of issue, but more to the extent of the interest for each day by which its maturity or date of payment has approached. This difference between notes bearing interest and notes not bearing interest may well be indicated by parallel columns showing for five dates the values of each. It will be seen there that both are increasing in value,—one approaching its face value because the

\* In practice the discount would be \$50, or 1 per cent of the face of the note. This is called "bank discount." In theory, the amount of discount is not the interest of \$5,000 for two months, but something less than that, for not \$5,000 is lent. True, or theoretical, discount is used in valuing bonds, leases, insurance premiums, etc. The method is to divide the face of the obligation by the sum which one dollar will amount to at interest for the required time. This quotient will show how many dollars will be required to produce the face of the obligation. If, here, we divide \$5,000 by 1.01, we get \$4,950.49½. If this were put at interest, it would amount to just \$5,000 at the end of two months.

time of payment of the specified amount is approaching, the other exceeding its face value because it will ultimately call for an amount in excess of the face value by the interest for the time elapsed. We will assume both notes to be for \$5,000, payable in four months, dated January 1, when interest is 6 per cent.

	Not bearing interest	Bearing interest
Jan. 1	\$4,900.00	\$5,000.00
Feb. 1	4,925.00	5,025.00
March 1	4,950.00	5,050.00
April 1	4,975.00	5,075.00
May 1	5,000.00	5,100.00

A note bearing interest will not usually specify the rate unless no legal rate happens to be established in that locality or unless it is to bear a rate different from the legal. The discount rate, for a note not bearing interest, is a matter of custom; but it is never specified in the note itself, for such a note has no concern with discount—it is a promise to pay a fixed sum, and that sum only, at a fixed date, and its discounted value is a matter for agreement between buyer and seller only. The deduction from the face value of a note is called discount, and the addition to the value of a note is called interest; but in nature the two are identical. Discount is taken out at the start as a decrease in value below face value; interest is added at the end as an increase in value. The discussion of the treatment of interest on the books had best be postponed until we come to consider so-called force or nominal accounts.

Just as Bills Receivable is treated so as to represent only written promises *owned* by the business on whose books they appear, Bills Payable should

represent only written promises *issued* by the firm on whose books they appear; so that John Jones's Bills Receivable may be identical with John Smith's Bills Payable, and the same note is to one a bill receivable and to the other a bill payable. Bills Payable, like Bills Receivable, moreover, does not include claims for debt unless a definite written promise to pay has been given, and it includes accepted drafts,—in this case, drafts accepted by the firm and ordering it to pay to others.

Most of the other property accounts are of a nature so simple that seldom question arises as to a choice of titles. To Real Estate, for instance, would be charged purchases of land and buildings. To Machinery and Plant would be charged expenditures for purchases of equipment for manufacturing. To Furniture and Fixtures would usually be charged the equipment for an office or a store. Akin to these, though having some elements usually different from them, is Merchandise, which, as ordinarily kept, has peculiarities which it will be well to discuss only after we have given some attention to nominal accounts.

The most obvious account representing what we have called explanation, or nominal, accounts, is Wages. This represents the obvious fact that we cannot expect other men to work for us without compensation, and the debit to that account indicates for how much of our outgo that force in human nature is responsible. This account may be divided into several portions—for instance, one subdivision may be for salaries of managers, as distinguished from the wages of day laborers,—but in nature the items are similar. It is difficult to conceive of Wages as any-



thing but purely nominal, for at best it explains why a shrinkage has occurred in assets. It is true, of course, that return is expected for the wages expended, but that return does not come back into Wages unless one is engaged in the nefarious business of hiring people and then letting them out to someone else at a higher price; in all other cases the return for wages paid appears not in Wages but in a credit to some other account representing the increase in the value of property, such as Merchandise, or Real Estate.

Similar to Wages as nominal accounts indicating expense are Printing, Postage, Insurance, Taxes, etc., all of which might be, in a business attempting only very simple accounting, charged to one general account which might be called "Expense." As soon as a business has passed beyond a very simple state, one finds usually that these various elements of expense may be profitably distinguished in separate accounts.

Nominal accounts are of value quite as much in distinguishing sources of profit as in measuring the force of causes of loss. For instance, if we are commission merchants engaged in the selling of goods for others, the commissions which we collect would naturally be credited to an account representing that department of our activity. Items of that sort would be carried to Commission,—though for a firm which employed agents to sell its goods that same title would be used for an account which represented an expense of selling. Similar to Commission in this respect would be Rent for a firm renting property, but Rent on the books of a firm hiring property would

be an expense account. Nominal accounts, then, may represent either gains or losses.

A nominal account which may have a balance first on one side and then on the other is Interest. Although it is true that any one firm is likely to be usually either a borrower or a lender, every firm is likely to have interest items upon both sides of the account merely in the handling of notes and drafts. For instance, in the case used as an illustration on page 56, the firm accepting a promissory note must debit Bills Receivable for the full face of that note, or \$5,000. If the note does not bear interest, however, and the firm sells that note to somebody else a month later, it will get not \$5,000, but considerably less, possibly \$4,975. That is to say, since the other firm taking the note must wait a month before the \$5,000 called for by the note can be collected, it will subtract from the face of the note enough to compensate it for accepting the note so far in advance of the time when it shall be paid. This other firm will take out interest for one month, or \$25. The firm which originally received this note from its customer has already debited Bills Receivable \$5,000 and has credited the customer \$5,000. On having the note discounted, however, it must credit Bills Receivable \$5,000, for that department of the business has surrendered the note charged to it at \$5,000, and it will debit Cash \$4,975 and Interest \$25 (which explains or holds Interest responsible for the loss of \$25). This was a case in which though no interest was actually specified or paid as such, the Interest entry had to be made. The second firm accepting this note will be allowing \$4,975 for a note

of which the face value is \$5,000, and \$5,000 will be received by it at the time the note becomes due. The entry on its books when it accepts the note, therefore, will be to debit Bills Receivable \$5,000, to credit Cash (if they paid cash) \$4,975, and to credit Interest \$25. That is to say, though the note is worth on its face value \$5,000, the firm allows to the others from whom it takes the note only the actual value of \$4,975, and pays accordingly. The difference between the face value and the amount which it allows for the note is a profit due to the fact that it is willing to wait one month for payment, and this profit is properly recorded under the head of Interest because the force which Interest represents has brought in that gain. If the note bears interest, on the other hand, when that interest is collected Interest must be credited.

Recognizing the fact that Interest is debited for all losses on account of interest and credited for all gains on account of interest, the only complication arises in determining in each case whether the interest should be entered now or only at a later date. Of course in the case last worked out the profit is not really made until the note is paid; that is, \$4,975 was allowed for the note, we will say, on December 1, but the \$5,000 was not collected until January 1. In one sense, therefore, it is true that the profit should be entered only on January 1; but in the meantime the books would be failing to show the fact that there was a \$25 discrepancy between the face value of the note recorded in the Bills Receivable account and the \$4,975 paid in cash; and such discrepancies are not to be allowed upon the books. Indeed, the purpose of



double entry is to explain always day by day the origin of any figures of profit and loss. Although it is true, therefore, that the interest is not properly gained until January 1, yet since the transaction in all its outward forms is really complete on December 1, in the sense that the promise to pay the extra \$25 was received in the form of the note on December 1, that is the desirable time to make the entry; for so far as the books are concerned it is the promise rather than the performance which determines the amount of money to be entered on the books. When, on the other hand, the note bears interest, it is true that the promise to pay interest is made on the earlier date, just as it is in the last case discussed, but the promise is not expressed in terms of dollars and cents. The note reads, "I promise to pay \$5,000 with interest;" but as the amount of interest is not entered on the face of the note and is not properly to be included in Bills Receivable, it is not yet to be credited to Interest, and that portion of the interest remains off the books until actually paid. In other words, the entry to Interest is made at the time that the transaction takes a definite form in dollars and cents, and is entered on the books as such whether the payment is made at that time or later. As will be shown in another connection, this method does not cause the books to misrepresent facts with regard to Interest; for, in any proper plan of accounting, whenever the books are closed or the profit and loss for the year is determined, allowances are made for all accrued items which have not yet been entered upon the books.

We have now discussed property or real accounts and force or nominal accounts. We have remaining one account which, as commonly kept, is both real and nominal. The suggestion was made in the second chapter that if we debit Merchandise for all purchases at cost and credit Merchandise for all sales at selling price, the balance between them will not represent goods on hand, for the debits and credits were not at the same prices, but will include a certain amount of profits—if profits have been made. How much profit will be included in such a balance must be determined by figures not included in the account itself. Under this plan of keeping Merchandise account, therefore, we are not getting quite the results we usually expect to get from either property accounts or force accounts, for the balance is neither straight property nor straight profits. We can determine the profit, however, by taking account of stock and relating the valuation to the purchases and the sales. The method of doing this will be described later in this chapter.

Before going further in our discussion of the use of particular accounts it is worth while to pause to work out a number of practical cases and see how the various accounts are to be debited and credited. Then, with a better notion of just how each account looks and what it stands for, we may analyze it further and see its real significance. Let us assume a business buying and selling merchandise, receiving and giving notes, paying and collecting bills, and indicate for it the commonest transactions and the ways by which those transactions would get upon its books of account. The most profitable way of doing

this for the present is to assume that all items go upon the journal, and not to attempt at this time to distinguish in use between journal, cash book, sales book, and purchase book. We shall thus have all parts of each transaction before us at once. After we have once made these entries in journal form, we may then split them among the separate books and show how they would appear upon a ledger.

Let us suppose that Laurence Sterne begins business January 1 with the following capital: cash, \$15,000; store building, \$15,000; a promissory note of George Eliot, for \$1,000, dated January 1, payable in two months; a promissory note of George Evans, for \$2,000, dated December 1, payable in two months; a promissory note of George H. Lewes, for \$500, dated December 16, payable in one month; a promissory note of George Meredith, for \$1,500, dated November 1, payable on demand with interest. For this opening of business an entry would need to be made so as to provide debits and credits to several accounts. In the first place, we must realize that the proprietor is, for the books of the business, an outsider. The books are not his books, except as he chances to own the business. On them he will be credited for what he puts in and debited for what he takes out—just as anyone else would be debited and credited.

Cash would be debited because the cash drawer or the cashier is responsible. Real Estate would be debited because that department of the business, or the property itself, if one prefers to put it that way, is responsible for that amount of value. Bills Receivable would be debited for \$5,000, because the



total face value of these notes amounts to that sum, and the bills receivable account should represent face values only. The proprietor, Laurence Sterne, however, cannot be credited properly with the full face of the notes, for although these notes will bring in a total of \$5,000, and, indeed, more, since the last of them bears interest, he is not turning over to the business property worth \$5,000 on the day that the business is opened: the business must wait two months to collect the \$1,000 ultimately due on the first note; it must wait one month to collect the \$2,000 on the second note; it must wait fifteen days to collect the \$500 due on the third note. Obviously, if a man is going to debit his business or the business is going to credit him with an investment, the facts are stated properly only when he is credited on the books of the business for the amount invested on the day of investment. When the year is over, an attempt will be made from the books to determine just what the business has earned from each one of its sources of income, including interest, and just what it has lost from each one of its causes of expense. Clearly, then, to credit the proprietor with funds which cannot be realized by the business until a date later than the time of credit is to cause the business to lose the use of the money and possibly even to suffer an expense on account of interest for the time which it has to wait to realize upon the investment. We shall see in this case that nine days later the business is obliged to borrow money for operating uses. It would not have to do so if the proprietor had turned into it cash or notes on which payment could be immediately demanded. Three of the notes are payable

only in the future. The business, therefore, should give the proprietor credit for his investment of notes only for their present worth, which is the face value less the discount. Let us figure the discount on each of these notes. It must be observed, in the first place, that when a note does not bear interest we are concerned, when figuring its present worth, not at all with the length of time which it has run, but only with the length of time which it has yet to run. For instance, if the note is payable two months in the future, we have to wait two months for collection, and neither the amount that it will call for nor the time is affected by the past history of that note,—that is, we do not care whether it was dated July 1 to become due March 1, or dated December 31 to become due March 1. Our period of waiting is no longer in one case than in the other, and our discount is determined solely by looking into the future. We need to know the date of the note only in order that we may add its time to that date and determine its maturity. When, on the other hand, a note bears interest, we are concerned only with its past history, for, since it bears interest, the future takes care of itself, and we wish to know only how much has accumulated and remains unpaid of the interest for which it is a good claim. In the cases in hand, therefore, since the note of George Eliot is dated today, payable in two months, it is worth less than the face value by the amount of the discount for two months, or, at six per cent., \$10. Since the note of George Evans was dated December 1, payable in two months, it will become due February 1, and today it is subject to discount for one month, or, at

six per cent., \$10. Since the note of George H. Lewes was dated December 16, payable in one month, it will become due January 16, and must be discounted for fifteen days, or, at six per cent., \$1.25. The sum of these discounts is \$21.25. This sum, if we wished to make a separate entry for it, would be debited to the proprietor and credited to Interest, for the business, by agreeing to wait for its money, will receive in the end more than the sum credited to the proprietor, and the difference will have been earned by the force of interest. Since the note of George Meredith, dated November 1, bears interest, the interest accrued up to January 1 will be, at six per cent., for two months, \$15; and this \$15 the business buys when it takes the note. So Interest should be debited as responsible for this expenditure of money. We may combine these two entries, however. The \$21.25 discount, to be credited to Interest on the first three notes, may be reduced by the \$15 to be debited to Interest, leaving a net sum, creditable to Interest and chargeable to the proprietor, of \$6.25; the proprietor's credit, therefore, is less than the face of the notes by this amount. Since Bills Receivable should include only the face values of notes, this \$6.25 does not affect that account.

Although under some refined systems of bookkeeping the interest accrued on the Meredith note would be carried to an account indicating in its title exactly its purpose, such, for instance, as Interest Accrued, in a simple type of bookkeeping we may carry this item directly to Interest, recognizing that here Interest represents an asset. This does not introduce confusion into the books, however, for when



the interest is paid Interest will be credited, and the correspondence of debit and credit will wipe out the item, showing that on the purchase the business made neither profit nor loss; and it is true that on this item the business has not yet earned anything on account of interest, for the business has paid for the interest claim by crediting the proprietor. When the interest is collected, however, so much of the credit as offsets the debit will apply to balance the account, and any excess will represent our profits from holding the note. We shall see this worked out later. So far as the discounts are concerned, on the other hand, the \$21.25 should properly be credited to Interest account because this sum will be an earning of the business. That is to say, we allow the proprietor credit for his investment, including the face of the notes less the discount subtracted, but when the notes are paid the full face of those notes will be collected in cash, and the difference between the amount allowed the proprietor, which was the face less interest, and the amount actually collected, which will be the full face, is exactly what the business has earned through the force of interest. This earning ought to be credited to Interest, and this method leaves it so credited. It is obviously unnecessary, though it would be quite harmless, to credit the proprietor for the interest accrued on the last note—namely, \$15, debiting Interest for the same amount,—and then to debit the proprietor with the amount of discount on the first three notes—namely, \$21.25, crediting Interest for the same amount. This would represent the facts just as they are, but it would involve two entries and two postings both

to the proprietor and to Interest; whereas the desired result is produced just as well by combining the two into one entry and subtracting the difference between the discount and the interest from the amount which otherwise would be credited to the proprietor—giving \$35,000 less \$6.25,—and crediting Interest with the same difference, or \$6.25. The full entry for the investment would appear upon the books in simple journal form as follows:

1			
Cash		\$15,000.	
Real Estate		15,000	
Bills Receivable		5,000	
To Laurence Sterne			\$34,993.75
Interest			6.25
Laurence Sterne begins business this day. He invests cash and real estate as indicated above, and notes as follows:			
of George Eliot, dated Jan. 1, two months,			
face 1,000, discount	10.00		
George Evans, dated Dec. 1, two			
months, face 2,000, discount	10.00		
George H. Lewes, dated Dec. 16, two			
months, 500, discount	1.25		
total discount	21.25		
George Meredith, dated November 1, on			
demand, with int., 1,500, interest	15.00		
net discount	6.25		

Suppose our next transaction is the purchase of office and store furniture for \$500 in cash. The entry will have to debit Furniture and Fixtures for the full amount paid, because, if we conceive that furniture to be on hand as property, the department of the business which has charge of it is responsible for its care, or, if we conceive that furniture to be consumed in the processes of the business, the account must indicate a responsibility for consuming that amount

of value. For our present purpose, then, we do not need to decide whether the account shall represent property supposed to remain on hand, or property to be consumed in the conduct of the business; in either case a responsibility is taken and the account should be debited. Cash, on the other hand, representing the cash drawer or the cashier's department, has yielded up a part of its property to enable us to secure the property, which is a creditable thing to do, and, consequently, Cash must be credited to indicate a surrender of property previously charged to it. The journal entry will be as follows:

	1		
Furniture and Fixtures		500.00	
To Cash			500.00
Bought office and store furniture			

Next let us pay \$15 for postage. It is possible to have one account, usually called "Expense," to include a large number of expense items of various sorts, but usually it is desirable to divide such expense among a number of separate accounts. One of these, usually worth while to maintain by itself, is Postage. In this case, therefore, we must debit Postage to indicate that one of the causes of shrinkage of property is the need of having matter carried through the mails, and to indicate for just how much of our shrinkage of assets this account is responsible. We must at the same time, as in the last case, credit Cash, for the cash drawer has surrendered a part of its property to enable us to secure the postage equipment necessary. The entry would be made as follows:



1

Postage	15.00	
To Cash		15.00
Stamps and envelopes bought		

Next we may buy stationery, office books of account, etc., for cash. The account representing such things must be debited as responsible for the outgo, and, as before, Cash must be credited. The entry will be as follows:

1

Stationery	125.00	
To Cash		125.00
Office books, stationery, ink, etc., bought		

On the second day of the month we buy merchandise of Charles Dickens, for which we agree to make payment in ten days, to the amount of \$4,000, and we buy merchandise from Charles Reade to the amount of \$3,000, to whom we pay cash. It would be possible to combine these two transactions into one entry, in which case Merchandise would be debited \$7,000, because the merchandise department of the business is now responsible for this amount of property, Charles Dickens would be credited \$4,000 because he has entrusted the business with this amount of value, and Cash would be credited, as previously, with \$3,000. It might be desirable, however, to open an account with Charles Reade in the ledger in spite of the fact that immediate payment is made to him. The ledger, it will be remembered, is a book in which all items pertaining to the same matter are classified under one account. A ledger, of course, is indexed, and it is possible always, therefore, to find an item in the books by turning to the corresponding ledger

account as indicated by the index. If, on the other hand, the item does not get into the ledger at all, there is no convenient means of finding it, for no other book is susceptible of convenient indexing. If it is probable, therefore, that we shall have other transactions with Charles Reade of sufficient importance to make it worth while to keep his affairs indexed, it is worth while to open an account with him and credit him, just as we credit Charles Dickens, for the goods furnished, and then immediately debit him for the cash payment. We will assume here, however, that we are not to open an account with Charles Reade, and that we are to make separate entries for each purchase. One of these entries will debit Merchandise and credit Dickens, and the other will debit Merchandise and credit Cash. They are shown below.

	2		
Merchandise		4000.00	
To Charles Dickens			4000.00
The following bill of goods on 10 days' time, purchased of him: [details should be shown; or, if the bills are numbered and filed, the number only is necessary]			

	2		
Merchandise		3000.00	
To Cash			
[Explanation similar to that for the sale to Charles Dickens]			

On the third of the month we pay \$65 for freight. It is often worth while to maintain a separate account for freight in order that we may add the total to the sum of our merchandise cost at the end of a period and yet in the interval know what is our amount of expense in this connection. Our entry

will be, of course, a debit to Freight and a credit to Cash, for Freight is responsible for the loss of assets.

	3		
Freight		65.00	
To Cash			65.00
Freight paid on goods rec'd today			

We next day pay our telephone bill for three months in advance. It might be worth while to open a special account for telegraph, telephone and messenger service, but it is assumed here that the amount of such expense is so small that it is not worth while to keep a separate account of it, and its payment, therefore, is charged to the miscellaneous expense account called by the simple title. We debit Expense and credit Cash in the form of the entry shown below.

	4		
Expense		25.00	
To Cash			25.00
Telephone bill paid to April 1			

On the fourth of the month we buy horses and wagon for delivery service, and pay cash, \$500. This is obviously of the nature of an expense item. It is desirable, however, to keep it in an account by itself for the simple reason that when we come to make up our accounts at the end of the year we shall, unless we have had bad luck, find that the value is chiefly remaining and in only small part consumed during the year. These items, then, though of the nature of expense, are chiefly property and are expense only so far as their value is reduced by use during the year. It is much simpler to debit this payment to an account by itself, and at the end of the year to



consider only a part as consumed, than to debit it to Expense and at the end of the year make allowance for most of it remaining unconsumed. It may be well to have an account entitled "Delivery Equipment." To such an account will be carried charges not only for the horses and wagon, but also for harness, stable furnishings, etc. The entry will be as below:

	4		
Delivery Equipment		500.00	
To Cash			500.00
Horses and wagon bought for cash			

We next pay \$30 for advertising. This should be debited to Expense and credited to Cash unless it is desirable, because of the amount of this kind of expenditure, to keep a separate account for advertising. In the entry as shown below this has been done.

	4		
Advertising		30.00	
To Cash			30.00
Paid for advertising in directory	10.00		
in Journal	15.00		
in Bulletin	5.00		

On January 5 we sell goods to Anthony Trollope to the amount of \$700, with the understanding that payment is to be made in thirty days. Our books must show that we hold Anthony Trollope responsible for payment, and he must be debited; and at the same time we must show that the warehouse has given up \$700 worth of goods, and, accordingly, is to be credited for that amount. The entry is shown below.

	5		
Anthony Trollope		700.00	
To Cash			700.00
Sold him, on 30 days, as follows:			
[Details]			

We on the same day buy goods of Alexander Pope and pay cash. Let us assume in this case that we wish to have an account in our ledger with Pope in order that we may have in one place a record of all purchases made from him and payments made to him. We must then debit Merchandise and credit Pope for the full amount, \$6,000, and then by another entry debit Pope and credit Cash by the same amount.

	5		
Merchandise		6000.00	
To Alexander Pope			6000.00
Bought of him as below:			
[Details]			

	5		
Alexander Pope		6000.00	
To Cash			6000.00
In payment of merchandise bought of him today \			

On the 8th we pay wages of \$25 to the bookkeeper, \$15 each to three clerks, and \$10 to the driver. This transaction might be entered in either of two ways. If we desire to keep on our books a record of all relations with our employees in such form that we may learn just when wages were due each employee and when he was paid, we should carry these items through the ledger by making an entry first to credit each with his wages, and then another entry to debit each for the cash paid. In such a case the first entry would be a debit to Wages, \$80, and a credit to the

five persons concerned at the amount belonging to each. Then, on payment, each would be debited by the amount previously credited, and Cash would be credited for the total. This method shows, when all wages have been paid, that no sums are due to any of the employees, for the debits and the credits to each cancel; but we have in the end a balance of debit to Wages and of credit to Cash, and this represents the actual fact,—a loss of cash because of the fact, shown by the debit to Wages, that men will not work for nothing. If, on the other hand, we do not care to have a ledger account with each clerk, because payments are always made promptly, we should omit both the debits and the credits to employees and make the simple entry debiting Wages and crediting Cash. This is the method in the entry given below.

8

Wages	80.00	
To Cash		80.00
One week's wages, Jan. 1 to Jan. 6, as follows: [The detail may give the items or refer to the pay roll]		

On January 9 we buy goods of Walter Scott, payment to be made in ten days, for \$7,000. This, as in the case of earlier purchases, is a debit to Merchandise and a credit to the seller, as is shown below.

9

Merchandise	7000.00	
To Walter Scott		7000.00
His invoice No. 4 [This assumes that the invoice is numbered and filed for reference]		



On the same day a bank messenger brings us a draft which Charles Dickens has drawn on us ordering us to pay to a third party, three days after we see the draft, the amount of our bill for the purchase of January 2. We find that since the goods were bought on an agreement to pay for them in ten days, payment ought to be made on the 12th, and as this draft, if accepted by us, will be payable three days from today, we agree to make payment, and we write the word "accepted" across the face of the draft, with the date, and our signature. As soon as we have done this we no longer owe Charles Dickens for the goods. We have made payment by signing this draft and promising to give cash on the day designated. If we default in payment, he will bring suit not for payment on the goods, but for payment of the draft. Our books must show this fact, and, therefore, we must debit Charles Dickens for the payment made, namely, \$4,000, and credit Bills Payable.

Novices at bookkeeping more often have trouble with Bills Payable than with any other account. The case before us may well illustrate the proper treatment of that account. It is obvious that Charles Dickens must be debited, for we are holding him responsible to free us on his books from the debt due on account of the goods; he is responsible for our acceptance of the draft. Something must be credited, moreover, at the time we debit Dickens. This suggests that Bills Payable should receive the credit because we issue to him a promise to pay, and Bills Payable is meant to represent all promises for payment in the form of any written document. It ought to be possible, however, to determine whether Bills

Payable shall be debited or credited without knowing the other half of the entry. In this case, just what has been done for the business, and by what? Bills Payable, as a ledger account, represents something which has stepped in and paid our debt, temporarily, for us. We ought to make settlement with Dickens on the so-called book account—or sum due for the charge against us on his books,—but we are released from that responsibility by the fact that we have accepted a draft. In other words, something has stepped in between Charles Dickens and us and set us free from that responsibility on the book account. Whatever has so set us free is entitled to credit for the operation and is, of course, therefore to be credited. So we credit Bills Payable just as we should credit any individual who should come in and take this burden off our hands. This is exactly the sort of thing which always leads to a credit to this account. It will be found always when a note is issued or a draft is accepted that the paper signed has relieved the business of some responsibility or has raised funds for it,—as happens in the next transaction. We must, therefore, always credit the account as performing this service, just as we should credit an individual or Cash or any other account which performs a service for us. The entry follows:

9

Charles Dickens	4000.00	
To Bills Payable		4000.00
Accepted his draft for the amount of his invoice credited January 2		

The next day, finding need for more money to run our business, we make out a note promising to

pay to our bank \$5,000 in thirty days. This we take to our bank and get discounted. The bank will give us, however, not \$5,000, of course, because as the note does not bear interest it demands the payment of only \$5,000 at the expiration of thirty days; consequently, the bank will now deduct the discount, which is \$25 at six per cent., and give us \$4,975 in exchange. Our entry must indicate the fact that the face of the note is \$5,000, and must therefore credit Bills Payable for that amount. Cash, however, is increased only by the proceeds of the note, or \$4,975, and therefore must be debited for only that sum. The cause of the discrepancy between the face of the note and the amount of cash realized is the force represented by the account entitled Interest, and therefore we debit Interest for that amount. The entry is shown below.

	10		
Cash		4975.00	
Interest		25.00	
To Bills Payable			5000.00
Discounted our note, 30 days, at			
National City Bank			

On the same day we receive from George Meredith \$1,517.25 in payment of his note invested by the proprietor at the opening of business. Since the note has run two months and nine days, the amount of interest will be \$17.25. We must debit Cash for the total amount received, because the cash drawer or cashier's department is responsible. We must credit Bills Receivable by the face of the note, because the department of the business to which notes were entrusted (or, if one wishes so to consider it, the drawer in the safe in which such notes are kept) has sur-



rendered that amount of value, or has produced that amount of value. We credit Interest \$17.25, because the force which that account represents has produced this increase of property,—a creditable thing to do. The entry is shown below.

	10	
Cash	1517.25	
To Bills Receivable		1500.00
Interest		17.25
Received payment on George Meredith's note, received Jan. 1, with interest		

It is interesting to note here that when this note was received by the business, on January 1, Interest was in effect debited \$15.00. (On reference to the entry it will be seen that the \$15.00 was subtracted from the \$21.25, which otherwise would have been credited to Interest.) This \$15.00, we saw then, was accrued interest purchased as an asset. Interest was debited because Interest is responsible,—not there responsible for a loss, but responsible to *collect the money*. Now we find Interest credited \$17.25. Obviously \$15.00 of the \$17.25 is merely acquittal of the responsibility to collect, and the rest is benefit conferred on the business,—clear gain. Is the \$2.25, left as clear gain, correct? The business held the note nine days, and, at six per cent., it ought to earn a sixth of a mill a day for every dollar, or \$2.25 for the nine days on \$1,500. Since this is just what our books show, we have proved the correctness of our debits and credits to Interest on this score.

On the 11th we buy goods of John Dryden and pay cash, \$6,000. We do not wish to open an account with John Dryden on the ledger because we do

not expect to have other transactions with him. Below is the entry.

11

Merchandise	6000.00	
To Cash		6000.00
Bought of John Dryden for cash, as below:		
[Details]		

On the 12th we wish to raise more money, and consequently discount at our bank George Evans's note invested by the proprietor. Since this note was dated December 1, to run two months, it will become due February 1, and today it is worth less than its face by the discount for twenty days. The amount of discount is \$6.67. We get in cash, therefore, \$1,993.33 and must debit Cash for that amount. Since that force in business which we call interest is responsible for the deduction of \$6.67 from the face of the note, Interest should be debited; and Bills Receivable, which has produced the cash, should be credited for the face, as always, or \$2,000. The entry is shown below.

12

Cash	1993.33	
Interest	6.67	
To Bills Receivable		2000.00
Bills Receivable No. 2 discounted		

It will be remembered that when we took the note Interest was credited for \$10.00 (though this amount was combined with others to make a net credit for four notes of only \$6.25). The present debit of \$6.67 leaves a net credit of \$3.33. This is exactly correct, for it shows that we have earned \$3.33 by holding the note a third of a month. The note was worth

\$1,990 when we took it, and is now worth \$1,993.33.

On the same day we pay the draft accepted by us on the 9th. Since this is now a bill payable, we debit Bills Payable and credit Cash. The reason for this debit to Bills Payable is obvious: we are now obliged to give up \$4,000 in cash because of the claim outstanding against us which originated in this bill payable. We credited Bills Payable for stepping in between us and our debt at the time we accepted the draft, and now that the bill payable must be met we debit it for causing the outgo. The two items on that account balance each other. Always when a bill payable is met the account is, of course, debited as responsible for the loss of property. The entry will appear as shown below.

	12		
Bills Payable		4000.00	
To Cash			4000.00
Paid our acceptance of Jan. 9			

On the 13th we sell goods to Jonathan Swift, payable in ten days, for \$575. The entry is as follows:

	13		
Jonathan Swift		575.00	
To Merchandise			575.00
Sold him goods as follows, on 10 days			
[Details]			

On the 15th we sell goods to Richard Steele, to be paid for in ten days, for \$200. The entry is as below.

	15		
Richard Steele		200.00	
To Merchandise			200.00
[Details]			



On the 16th the note of G. H. Lewes, invested in the business by the proprietor on January 1, is paid. Since cash comes in, cash account is debited; and since the origin of this receipt lies in property surrendered by the bills receivable drawer in the safe, Bills Receivable is credited, as shown below. The business has made a profit by holding the note, for it allowed the proprietor only \$498.75 on Jan. 1; the discount was then credited, however, and so only the face needs now to be entered.

16

Cash		500.00	
	To Bills Receivable		500.00
Note of G. H. Lewes, dated Dec. 16, paid			

On the same day we sell to Joseph Addison in exchange for his note, payable in thirty days, \$600 worth of goods. If for any reason we wish Addison's account to appear on the ledger, we should debit him and credit Merchandise, and then by a second entry we should debit Bills Receivable and credit him. We will assume in this case, however, that we have no use for Addison's account in the ledger, and therefore merely debit Bills Receivable because the safe is responsible for that amount of property, and credit Merchandise for surrendering that amount of value. If the goods are to be paid for under ordinary circumstances in thirty days, and his note reads as payable in thirty days, no discount is to be considered. If, however, the goods ought to be paid for in ten days, and the note reads as payable in thirty days, he should pay the difference of discount in cash. We

will assume in this case that thirty days is a normal time for payment of the goods and that, therefore, the note is an exact equivalent. The entry is shown below.

16

Bills Receivable	600.00	
To Merchandise		600.00
Sold goods to Jos. Addison, for his note, 30 days		
[Details]		

On January 17 we sell goods to George Berkeley for cash, \$300, as indicated below:

17

Cash	300.00	
To Merchandise		300.00
Sold goods to George Berkeley, for cash		
[Details]		

On the next day we issue our own note for thirty days, bearing interest, and borrow its face value at a bank for \$4,000. It will be seen that here, since the note itself bears interest, there is no discount to be subtracted, for at payment a larger sum than \$4,000 must be paid exactly equivalent to the interest charge for the lapse of time. We have, therefore, merely to debit Cash and credit Bills Payable, for Bills Payable has rendered the business the service of raising for it this amount of cash. On payment, however, since we must pay more than \$4,000, we will debit Interest and Bills Payable and credit Cash. The entry for the issue of the note is shown below.

18

Cash	4000.00	
To Bills Payable		4000.00
Issued our note for \$4000, with interest, and borrowed on it at the National City Bank, 30 days		

On the 19th we pay Walter Scott in full, as is shown by the following entry:

19

Walter Scott	7000.00	
To Cash		7000.00
Paid him his bill of Jan. 9		

On the same day we pay insurance to the amount of \$100. This might be debited to Expense, except as it is desirable to keep all insurance costs by themselves until the end of the year. The latter is what is done in the entry below.

19

Insurance	100.00	
To Cash		100.00
Policy No. 64,510, 3 yrs., on stock of goods		

On the 22d we pay \$300 for remodeling our offices. If it is supposed that this remodeling constitutes permanent improvement, it will be charged to Real Estate. If, on the other hand, it is supposed to be merely temporary, as a part of the expense of conducting the business, it must be charged to Expense or to some subdivision of that account. We here suppose it to be a permanent improvement, and therefore enter it as shown below:



- 22

Real Estate	300.00	
To Cash		300.00
Bill of Star Building Co. for remodeling offices		

On the same day we let to a tenant one of our remodeled offices, and he pays three months' rent in advance, to the amount of \$100. It is obvious that Cash must be debited as responsible for the money, and some account representing earnings, of a different sort from those ordinarily made in the common conduct of the business, must be credited. That is to say, it is worth while to distinguish between the profits made on merchandise sold, and the profits arising from such things as interest, commission, and rents. It would ordinarily be desirable to credit this item to Rent, as shown below:

22

Cash	100.00	
To Rent		100.00
Three months' rent paid in advance for office, by Edmund Burke		

On January 23 Jonathan Swift's bill is paid, as shown below:

23

Cash	575.00	
To J. Swift		
In payment of his bill of Jan. 13		

On the same day we pay for coal, \$100. Though this might be carried to Expense, if the coal consumption is large it will be desirable to compare the cost this year with subsequent years and, therefore, to charge this to an account by itself, as is shown below:

23

Fuel		100.00	
	To Cash		100.00
[Explanation should specify dealer, kind, and amount, or the bill as filed]			

On the 24th we subscribe and pay \$100 for the benefit of sufferers by a flood in a distant part of the country. This is no part of expense in the ordinary sense, and may be charged either to the proprietor, if he is supposed to make the subscription on his own behalf, or to Profit and Loss, if the subscription is made by the business. In the latter case, as is assumed below, we simply hold responsible for a loss of assets the general balance of income for the year. This, if profit is made, is reduced by this amount, or, if a loss is suffered, is increased to the same extent. The entry is as follows:

24

Profit & Loss		100.00	
	To Cash		100.00
Subscription to flood sufferers			

We sell goods for cash, as shown below:

24

Cash		1200.00	
	To Merchandise		1200.00
[The detail should indicate the name of the purchaser for any large item, as well as the goods sold.]			

On the next day we draw a draft on Anthony Trollope, payable in ten days, to our own order, for the amount of his bill due February 4. If this draft is not accepted by Trollope it is nothing but a piece of valueless paper, and, therefore, we cannot make any debit or credit until we know its fate. We make

a memorandum of its drawing but can at the present time do nothing else.

On the same day a bill for dry goods purchased by the proprietor's wife is paid out of the cash drawer. This is chargeable, of course, to his account, as shown below:

	25		
Laurence Sterne		75.00	
To Cash			75.00
Dry goods bill paid for Mrs. Sterne			

Richard Steele's bill is paid in cash, as indicated below:

	25		
Cash		200.00	
To Richard Steele			200.00
Bill of Jan. 15 paid			

On December 26 we receive notice that the draft drawn on Trollope has been accepted. This is now Trollope's promise to pay and is, therefore, for us a bill receivable, and Trollope has met his obligation to pay for the goods sold him on January 5. We accordingly debit Bills Receivable, for the bills receivable drawer or file is responsible for the property, and credit Trollope for giving this property to the business, as shown below:

	26		
Bills Receivable		700.00	
To A. Trollope			700.00
Our draft on him, for his bill of Jan. 5, accepted by him			

On the 27th we discount at our bank the draft which we received the preceding day accepted by Anthony Trollope. Since this is his promise to pay,



and we guarantee its payment on discounting it at the bank—just as we do any promissory note,—the bank, if our credit is good, will lend us money upon it. We receive cash for the face value less the discount for the time remaining before maturity. Since this loss of discount is due to that force in business which is represented by Interest, that account is debited for 93 cents, Cash is debited for the net proceeds, and Bills Receivable, which has now surrendered this amount of value, is credited for the full face. It is obvious that Trollope's name does not need to appear here as either debited or credited, for he was properly credited when he accepted the draft. The entry for this transaction follows.

27

Cash	699.07	
Interest	.93	
To Bills Receivable		700.00
Discounted Trollope's acceptance received yesterday		

On January 29 the proprietor draws for his own use \$150 in cash. This cash withdrawal should be debited to the proprietor exactly as any other payment of cash to an individual should be debited to that individual's account. It must be clearly understood that the books are kept for the business as an entity independent of the proprietor. The proprietor is liable for any debts of the business and he will take any profits accruing to it; but so long as we are keeping books for the business we must not confuse its affairs with the proprietor's personal affairs. The balance of the proprietor's account should at all times show how much he now has invested in

the business. It may be desirable to keep two accounts for the proprietor, one of which shall contain his capital investment and the other a record of his personal drawings out of the probable profits. Ordinarily, unless there are complications due to partnership, it makes absolutely no difference whether the capital and withdrawal accounts are combined or not, for the combined balance of the two accounts is the net investment; but when a partnership agreement provides for interest on capital and on undrawn salaries, it may be essential to know what portion of a partner's total credit is upon investment and what portion is upon salary. We here, having only a single proprietorship, charge this withdrawal to the proprietor's capital account.

29

Laurence Sterne	150.00	
To Cash		150.00
Cash drawn for personal use		

On the 30th we buy goods of Dickens, and sell goods to Swift and Steele. Combining the sales, we get the following entries:

30

Merchandise	1000.00	
To Charles Dickens		1000.00
[Details]		

30

Jonathan Swift	500.00	
Richard Steele	500.00	
To Merchandise		1000.00
[Details]		

We are now in a position to study a little more deeply the significance of some of these accounts,

and to note a few accounts that are new to us. Let us review summarily the old ones as we go on.

Cash, as we have seen, represents money, checks, and money orders, but does not represent notes and drafts. Since Cash is debited for all such items received, and is credited for all such items paid, and since no more can have been paid out than has been received, Cash must always have the balance on the debit side if it has any balance at all. An apparent exception to this, in books which treat bank balances as if they were cash, is when a bank account has been overdrawn. In such a case the payments appear to be in excess of the receipts. Theoretically, this is true; but its occurrence is bad bookkeeping, for the moment a bank account has been overdrawn, whether with the consent of the bank officials or not, an entry should be made on the receipts side of the cash book, crediting the bank and debiting Cash for the amount of the overdraft. Such an overdraft is distinctly a loan from the bank and should be entered as such. The business is liable for its repayment just as much as it is liable for any other debt, and such a debt should appear upon the books.

Similarly, Bills Receivable, which represents notes and drafts collectible, can have a balance on the debit side only. Bills Receivable is debited for all notes and drafts received, and is credited for all notes and drafts surrendered or collected, and since no more can have been surrendered or collected in cash or other property than the debits called for, it is impossible that the credits to Bills Receivable should ever exceed the debits, and the amount of debit balance must always equal the face value of



the notes on hand. An apparent exception to this is in connection with notes bearing interest, for then we collect a sum which, by the amount of the interest, is larger than the face. It is to be noted, however, that this excess payment is no part of the Bills Receivable proper, but is simply a payment for interest, and should be credited to Interest. So it remains true that Bills Receivable account cannot have been credited for more than its debits, and its balance will be the face value of notes on hand.

Bills Payable account, representing the promises of the business to pay either on promissory notes or on drafts, will be credited for all notes issued and debited for all notes paid; and since not more can have been paid upon Bills Payable than the face of the notes themselves calls for, the balance will always be on the credit side, and the amount of the balance will always be the face of all notes still outstanding. It is true, of course, that sometimes a note calls for the payment of a larger sum than that indicated on its face, for interest may be included; in such case, however, it must be recognized that the excess payment is interest pure and simple, and must be debited to Interest; so it still remains true that not more can have been paid on Bills Payable proper than the total of the Bills Payable credits, and the balance is the amount outstanding.

All pure property accounts must have the balance on the debit side, if any balance at all remains; for since each such account is debited originally for the value of the property belonging to the department of the business represented by the account, and since each is credited for what is surrendered by that de-

partment, any balance must represent the amount of property on hand. If any elements of profit are connected with property accounts—such as we have seen in the case of Merchandise,—the profit makes the account to a certain extent nominal, and its treatment at the end of the year must be in part that accorded to nominal accounts. Normally, however, property accounts are not supposed to have profit connected with them, though most of them need, annually or oftener, to be credited for depreciation in case repairs have not kept the property up to its original value. This credit subtracted from the debit standing originally on the books should show the net value of the property on hand, which is the debit balance remaining.

Of property accounts having some admixture of profits, Merchandise is the most common and therefore best worth detailed study. We saw that it is partly a real account, representing property, and partly a nominal account, representing profit or loss. This introduces some complication and awkwardness of interpretation. Let us examine it further. Merchandise may have a balance on either side because it is commonly debited for merchandise bought at the cost price, and is commonly credited for merchandise sold at the selling price. The difference between the two prices may be so great as to throw the balance on the credit side even though a considerable amount of merchandise is still on hand. Before we can know whether this account properly represents an earning or a loss, then, we must take into account the amount of merchandise on hand. Let us try out a number of cases of this sort.

Suppose the amount of merchandise on hand at the beginning of the year cost \$15,000, and that \$40,000 worth was bought during the year. This gives a total debit of \$55,000. Suppose next that the merchandise sold and credited amounts to \$50,000. Apparently we have a debit balance of \$5,000 which, if we were to treat Merchandise as we ordinarily treat property accounts, would indicate \$5,000 worth of merchandise on hand. If, however, our selling price has been much higher than the buying price, it is obvious that the \$50,000 worth sold cost us a good deal less than \$50,000,—how much less we cannot tell by any figures before us. If, now, we learn that we have \$20,000 worth of goods, figured at cost price, still remaining, the goods sold cost us \$35,000; and we know this because we know that of the \$55,000 debited to Merchandise (\$15,000 worth on hand at the beginning of the year and \$40,000 worth purchased later), we have \$20,000 still remaining, so that \$35,000 worth must have been sold. If the \$35,000 worth sold brought us \$50,000, as the credits to Merchandise indicate, the gain is \$15,000.

Now let us change our supposition. Suppose, though we are beginning the year as before, with \$15,000, and purchased during the year as before \$40,000, and sold during the year as before \$50,000, the amount now on hand is \$5,000. It is obvious that we have made no profit; this is shown by subtracting the \$5,000 now on hand from the \$55,000 total debits, leaving \$50,000 as the cost of the goods sold. This compared with the credits indicates that we really got only cost price for sales.

Let us try another case. Suppose the debits to



be \$55,000 as before, the credits to be now but \$20,000, and the inventory to be \$40,000. It is obvious in this case that the profits are \$5,000; for the amount on hand, \$40,000, subtracted from the total debits, \$55,000, leaves \$15,000, at cost price, for the goods sold; and since the sales amounted to \$20,000 and the cost of the sales to \$15,000, the balance is \$5,000 profit.

The same result would have been attained each time if, instead of subtracting the inventory from the debits, we had added it to the credits; for the credits then would have represented what we have received for our sales plus what we have yet on hand, which ultimately is to be credited. The difference between what it cost us to secure the merchandise and what the merchandise is worth, both sold and in stock, is the profit.

Let us take one case more, and use the second method. Supposing the debits to be as before, \$55,000, let us assume the sales to be \$60,000 and the goods remaining on hand to be \$15,000. Here the profit will be \$20,000, because our sales have already realized \$5,000 more than the total cost of all merchandise, and we have \$15,000 yet on hand; the two added give us \$20,000 profit. Reverting to our former method for this case, we get figures as follows: our present stock of \$15,000, subtracted from our debits, \$55,000, leaves us \$40,000 for the cost of the goods sold; as they brought \$60,000, our profit is \$20,000. Neither method, it is to be noted, counts profit on future sales, for we are figuring the inventory only at cost price, and we are doing this only because we must figure it on some basis in order

to determine what has been the profit on the goods sold. If the inventory of \$15,000 should prove next year to bring in nothing, it would still be true that our profits this year have been \$20,000. This year's profits are entirely independent of the inventory of \$15,000 put upon the goods now on hand. The \$15,000 is used only in order that we may determine how many of the total goods debited to Merchandise have been utilized in getting the \$60,000 worth of sales, and the profit of \$20,000 really comes from comparing the \$40,000 of cost of sales with the \$60,000 of results from sales.

Another method of treating Merchandise, which proves well worth while in large businesses, may be noted here. It does not get rid of the requirement of an inventory; no method can do that unless cost can be figured exactly on all articles sold, for only when we have either the cost of goods sold or the cost of the goods remaining on hand can we learn our profit from sales. By this method, separate accounts are kept for each of the three relations which Merchandise has with the business as a whole. One account, Inventory, represents the inventory, or result of taking account of stock, at the beginning of the year; this is kept constant through the year because no other debits and no credits are made to it. Another account, Purchases, shows purchases; and to this account are debited at the purchase or cost price all purchases made during the year. This would be a property account if it were credited for all sales of goods at the purchase price, for then the difference between the debits and the credits to this account would show what value in goods bought since

the beginning of the year is still on hand. A difficulty is that it is usually impossible, at least in any businesses but those of few sales, to figure on all items of sales the actual cost. Consequently it is usual under this plan to make no credits to the purchases account except when goods purchased are returned. Sales are credited to a separate account bearing that name, and are always entered at the selling price. Under this plan, then, profit is learned by adding the inventory at the end of the year to the sales, and from this sum subtracting the sum of the inventory at the beginning of the year and the purchases. We are not then much better off as regards the profit on merchandise than under the plan of a single account for merchandise, discussed in the preceding paragraph. The real value of this three-account treatment of merchandise is that with it we know the magnitude of our business as indicated by the total amount of purchases and the total amount of sales. Under the single account for merchandise, if we debit Merchandise when goods are bought and then return some of these goods, we must credit Merchandise for the return at the cost price; but we commonly also must credit merchandise sales to the single merchandise account at selling price. Our credits to Merchandise, then, comprise two sets of items: one is returned purchases at cost, the other is sales at selling price. This total credit does not properly indicate the magnitude of our sales, and, consequently, our merchandise account is not a proper index of the magnitude of our business. Similarly, we debit Merchandise not only for goods purchased at cost price, but for sales returned at selling



price, and hence the debit to Merchandise does not indicate the volume of our purchases. Only so far as the three separate accounts for Merchandise avoid this difficulty is the three-account system for merchandise better than the old-fashioned method of a single account.

We have to conclude, therefore, that in any case our Merchandise account is not quite one thing or another. It is not quite a real account and not quite a nominal account, but it may be made either of these. Whenever we take account of stock, we can remove from Merchandise the profit made on sales and transfer it to another account; the balance is then the correct property valuation. This awkwardness in Merchandise seems unfortunate, but it chances that it is due not at all to bookkeeping defects, but to a mere defect of fact. If the managers of the business cannot learn what has been the actual cost of sales, because of the expense of keeping and classifying the records, it is not to be expected that accounting can show in Merchandise, or any accounts representing merchandise, just what is the stock of goods on hand. It is only where it is possible to keep record of sales, and look up the cost price of all such sales, that merchandise account can be made exactly either a property account or a profit account. If such a record of the cost of sales were made, the books could always be kept in accordance with the facts. If Purchases was then credited every day with the total cost of goods sold, the debit balance of Purchases would always be the purchases added since the beginning of the year and now on hand; and this sum, added to the inventory at the beginning of the year,

would be the total stock of goods on hand; or, if more had been sold than was purchased after the beginning of the year, the credit excess when carried to Inventory (as at the beginning of the year) would leave as a balance a sum equal to the stock of goods on hand. The sales account, similarly, would be debited for all sales at cost—because, of course, the sales would be responsible at cost for the goods disposed of,—and would show as a balance, since it is credited with all sales at selling price, the gross profit on sales.

It is obvious that Wages, Printing, Postage, Insurance, Taxes, etc., all of which represent varieties of expense, will have a balance on the debit side, for they are responsible for outgoes. If, on the other hand, we find that one of our workmen has been engaged in something for his employer's personal use, though his name appears on the pay-roll as if he were engaged in the regular work of the business, we correct the error by debiting the proprietor and crediting Wages. If some of our stationery originally charged to Stationery is sold, Stationery will, of course, be credited for the amount. Repayment of insurance premium on the cancellation of a policy will be credited to Insurance. Credits to these accounts are rare, however.

Commission, representing both commissions allowed and commissions earned, may have a balance on either side, for the amounts earned may exceed or fall below those allowed. If Commission shows a credit balance, it is obvious that since it is credited for earnings—because to earn commissions is a creditable thing,—and is debited for commissions incurred—since Commission is responsible for the out-

go,—a credit balance shows a net profit on that score; and a debit balance shows a net loss on that score.

Interest, similarly, may have a balance on either side. A credit balance represents net earnings of interest over interest charges incurred, and a debit balance represents excess of interest allowed to others over interest earned.

The three general types of accounts have been illustrated in the particular accounts just described; but if it were not possible to bring together the various elements of a business and make a summary of all operations and relations, it would be difficult at the end of the year to record on the books any very clear statement of the results as a whole. As a means of bringing together the various nominal accounts, a profit and loss account is always kept. To this, ultimately, the balances of the other nominal accounts are carried. Indeed, Profit and Loss may serve another purpose than merely to summarize the transactions of an earning period. Throughout the course of any year there are likely to be some losses and gains of an unusual and rather trivial nature for which it is not worth while to keep any special accounts. Such losses and gains would be carried, whenever they occurred, to Profit and Loss, and there remain to be combined with all the others at the end of the year. Obviously, Profit and Loss should, in closing the business at the end of the year, be debited for all nominal accounts having a debit balance at that time,—such, for instance, as wages, rent paid in excess of that earned, interest paid in excess of that earned, commissions paid in excess of that earned, postage, stationery, etc.; and should be



credited by the earnings from merchandise, interest when earned in excess of allowances, etc. Profit and Loss may, of course, show the balance on either side. An excess of credits means that this account explains the fact that our assets have increased, by profits, over what they were at the beginning of the period. Since we debit property accounts and credit some explanation account (and Profit and Loss is simply the total balance of all explanation accounts) for all profits made during the year, the balance shown to the credit of this account at the end of the year measures the increase of assets. A debit balance to Profit and Loss, on the contrary, indicates net shrinkage of assets, for we have debited some explanation account and credited some property account for all sums disbursed as expenses or losses. If the business is a corporation and suffers a loss on operations for the year, Profit and Loss will remain with a debit balance at the end of the year; for if stockholders are not assessed to make up this deficit, there is no way of offsetting this loss on the books by charging it against any other account. A debit balance, then, means simply that the capital of the corporation has been depleted by the amount shown.

So far we have been considering only accounts which are of practically universal use. It is well now to observe some which, though common, are not necessarily found in all lines of business. It is common in many lines of business, as already indicated, to provide that when bills are paid early a discount may be subtracted from the full billed price. Sometimes these discounts are carried directly to Merchandise; that is, if the discounts are taken by cus-

tomers on goods sold, since the original credit to Merchandise is larger than the amount finally paid, Merchandise is debited for the amount of discount; so that the net result is the same as if Merchandise had been originally credited for the proper figure. This serves the purpose very well in most particulars, but it does not indicate what is the actual amount of discount allowed in the course of the year, for the figures are buried in Merchandise; and when it is desirable to compare discounts allowed this year with those allowed last year, this method gives no information. It is obvious, of course, that if we are selling to a poorer class of customers this year than last year, they probably will be less able to pay their bills promptly, and the amount of discount which they take will be smaller. When the amount of goods sold is the same, therefore, an increase in the amount of discount allowed indicates a better class of custom; and as this figure may be found easily only when discounts are carried to an account which contains nothing else, it is worth while to keep merchandise discounts separate during the year and carry them at the end of the year into Merchandise—as a final correction of prices,—or directly into Profit and Loss. Another method of accomplishing the same end, but on a more scientific basis, will be discussed later. The method described here, however, is the common method of business.

Another special account, which one would wish never to have occasion to use, is for bad debts. When it is finally known that an account will never be collected, though from one point of view it is still desirable that the books shall show that the money is

owed, from another point of view it is desirable to eliminate the account altogether; for sums due to the business ought to be counted as assets in calculating the present worth of the business at the end of the year. If bad debts are allowed to remain upon the books, there is great danger that the assets will appear overstated. A method of keeping record of the fact that the debt was not paid, and yet of removing the account from the assets, is to maintain an account entitled Bad Debts. Whenever an account is known to be bad a debit is made to Bad Debts and a credit to the account concerned. This closes the bad account and leaves Bad Debts with a balance which is of the nature of an explanation to be closed into the profit and loss account at the end of the year. If by any chance the debt should finally be paid, entries may be made to indicate the fact by simply debiting once more the original account and crediting Bad Debts, and then debiting Cash and crediting the original account for the amount paid. This puts everything where it would have been if the account had never been erroneously thought bad. This is better than crediting Bad Debts directly with the cash, for then the original account still looks as if it had never been paid.

A similar account for items thought possibly to be bad, though not yet abandoned, is sometimes called Suspense. To this account are debited items which the proprietors no longer wish to carry as good claims and yet are not willing to charge as losses. The method of handling this account would be the same as that for Bad Debts except that at the end of the year a certain percentage of such accounts, pos-



sibly one-half, one-third, or one-fourth, would be considered as good—on the assumption not so much that one-half of each account would be paid, as that an amount equivalent to one-half of the total would probably be paid in full.

Sometimes one finds in bookkeeping an account bearing the same name as that just described, but with an entirely different purpose. If it is a little uncertain at a time money is spent what will be the ultimate result of that expenditure, one is in doubt what to debit. Perhaps the company is engaged in rebuilding parts of its plant, and it is not sure while the work is in progress how much of the expenditure is for repairs, which ought to be considered as a part of expenses, and how much is for actual additions, which ought to be charged to Real Estate. By the device of a suspense account, to which all such expenses may be temporarily charged, it is possible to postpone the final decision as to the amounts to be charged to Repairs and to Real Estate until the work is completed. Then an entry debiting Real Estate and Repairs and crediting Suspense will represent the facts properly upon the books.

An entirely new class of accounts unlike any we have been discussing up to this point are so-called reserve accounts. It is obvious that if, at the end of the year, Profit and Loss shows a balance on the credit side, the business has earned something during the year in excess of its expenses. If all this credit balance is distributed as dividends, Profit and Loss will have no balance at the beginning of the new year; for on the distribution of dividends Profit and Loss will be debited and Cash will be credited. If, on

the other hand, the directors or partners decide not to distribute all the earnings as dividends, Profit and Loss will have a balance representing undivided profits. Several dispositions of these undivided profits are possible. It is common to leave them standing just as they are on the ledger. When left in this fashion, it is of course possible that they may be distributed in another year, for it may chance that the later earnings are a little less than in the past and the surplus earnings accumulated may be used to make up the dividend to an amount as large as that previously distributed. If, on the other hand, it is the policy of the managers to keep out of each year's profits a certain portion as a safety fund for possible losses through bad debts, through depreciation of machinery, through changes of fashion—throwing out of use goods and machinery to make such goods,—it may be desirable to label, so to speak, a certain part of the accumulated profits so that they shall be understood as intended to be maintained unimpaired in the business and never, or at least not for some years, distributed as dividends. The way to accomplish this on the books is to make an entry debiting Profit and Loss and crediting a special account (that is, simply transferring the balance), and thus to convert the old profit and loss balance into a new profit and loss balance which appears on the books with a name indicating its specific purpose,—such as Permanent Surplus. In such cases it is clear that, just as Profit and Loss is a nominal account explaining that a certain amount of the assets of the business has come from profit-yielding operations, so the reserve account is nominal and indicates that a certain amount

of assets, consisting of accumulated profits, is intended for a specific purpose other than distribution as dividends. A large business may maintain several different reserve accounts of the sort described. For instance, it may have so many buildings and so much machinery scattered about in many places that the managers believe it can more cheaply get along without fire insurance and run the risk of fire losses than pay insurance to insurance companies. In that case, the part of wisdom would be to set apart out of each year's apparent profits a certain reserve to cover the possibility of loss by fire. If the company has good luck, this reserve will be constantly growing and will represent earnings found to be unnecessary for replacement of buildings. If in any year a fire occurs, this account will be debited for the amount required to replace the buildings destroyed. Again, it is a common thing for machinery to become out of date by the discovery of new processes which will produce goods more cheaply than the old machinery can do. Many companies, to protect themselves against loss through the occurrence of this sort of thing, establish regularly a reserve for obsolescence of machinery. This appears, of course, as a credit on the books—a specially labeled profit and loss credit balance.





## CHAPTER V

### THE PRACTICAL OPERATIONS OF BOOKKEEPING

We saw in the last chapter a good many illustrations of the method of making entries through the journal, and we saw in the preceding chapter that, by means of books which are specialized forms of the journal, we may post certain common items, like cash and merchandise, in totals at the end of each month or week instead of individually, item by item. Let us review these special books and then examine the actual methods of dealing with them.

When we use a cash book and one page is made to include all the debits to Cash—with, of course, credits to other accounts,—and the other page to include credits to Cash—with debits to other accounts, any number of items may be posted as a debit or a credit to Cash in one lump sum, and so the total number of postings for each side of the book is only one greater than the number of items. If, for instance, there are one hundred items of Cash receipts, there will be one hundred credits to the accounts representing the source of the cash, and there will be only one debit to Cash—which is a total of all the receipts; and the one debit to Cash will be the amount of the credits to all the other accounts. However great the number of items, if we can keep all our Cash debits in one place, we need only one Cash debit to offset all the

credit items. The same thing is true on the other side of the cash book, on the purchase book, and on the sales book. So, although we started with a consideration of the only proper bookkeeping method as that of double entry, we have found that the double entry is double not in the sense that it requires two entries or even two postings for each transaction, but only in the sense that it has debits equal to credits.

It is well to note a number of things with regard to the manner of making postings to the ledger. It is desirable, of course, to indicate on the book of original entry whenever a posting has been made, for otherwise an unintentional second posting of the amount might throw the ledger out of accord with the facts. The usual method of indicating the fact that the work has been done is to make a check mark; but since there is advantage in having in the journal a record of the page of the ledger to which the posting was made (in order that in looking the matter up again one may turn to it readily), the number of the ledger page, or "ledger folio," is commonly used as the check mark. Similarly, in the ledger it is desirable to have for reference an indication of the page from which the entry came, and in ledger rulings a column is provided for that purpose. Care should be taken in making postings that, even though the bookkeeper knows the number of the ledger folio to which he will transfer the item, he does not write that number in the column for check marks until after the posting is actually made; for otherwise, if by any chance he is interrupted in the process, the check mark may mislead him and possibly the item will not get upon



the ledger until after a long search in quest of the unknown error.

Now that we have our original entries cut up and distributed among four books, we may find occasionally that various parts of what is really one transaction must be split among several books. It is a convenience to have all items belonging to one transaction in one place. If that convenience is very great, it may be worth while to make the full entry in the journal, even though cash be involved, and then make another entry in the cash book in order that the amount of cash may appear among the cash receipts. When this is done, unless a precaution is taken, Cash will be debited or credited twice—once in the journal and once in the cash book. It is easy to head off a second posting by checking this cash item in the journal at the time the entry is made. If the check used is a blank check, instead of the folio number, this check will indicate that posting has not been made and need not be made from this place and that the entry appears elsewhere and will be posted thence. Any entries may be introduced into any book, for the sake of a comprehensive statement of the transaction—even though duplicate entries are made in other books,—provided only the blank check is used to head off duplicate postings. This principle may be well illustrated by one treatment of a cash sale. Some houses use a special cash-sales book, from which the total is carried to the cash book as a debit to Cash and a credit to Merchandise. The credit posting to Merchandise may then be made, obviously, either from the cash book, to which the total is transferred, or directly from the footing of the cash-sales

book itself. Even when this special sales book for cash sales is not provided, however, it is desirable that the entry shall be made on the cash book in order that all cash items may be together, and it is desirable that it shall be also upon the sales book in order that we may have a complete record of sales. Unless we take precaution to head off the possible double posting—that is, both the debit to Cash and credit to Merchandise from the cash book and the credit to Merchandise and debit to Cash from the sales book,—we shall have both of these accounts thrown out of accord with the facts. If, however, we make in both books, at the time of entry, the blank check in the check column, we provide that Cash shall be properly debited, because the amount will be included in the footing of the page as a Cash debit for the period, and that Merchandise shall be properly credited, because the sale will be included in the footing of the sales book for the period; but since both items are checked, Merchandise is not improperly credited again from the cash book (as it naturally would be if not checked), and Cash is not improperly debited again from the sales book (as it naturally would be if not checked). This is shown on pages 122 and 125 for the sale to George Berkeley on January 17. The item is checked in both sales book and cash book. Cash gets a debit posting through the total for the month on the cash book, and Merchandise gets a credit posting through the total sales on the sales book. A large number of uses of the blank check may be worth while in such connections as this. We might, for instance, give Laurence Sterne credit on the journal (page 121) for his whole investment,



including cash; then if we check the cash item in the journal and check the Laurence Sterne item in the cash book (page 122), all will be as it should be. This is not done, however, for there is no objection to splitting the item between two books.

It is not necessary to add the columns of the journal, for the totals are not to be posted to any account. When it happens, however, that the separate items of debits and of credits are not identical, it may be worth while to add the journal columns in order to make sure that the total debits equal the total credits,—which of course they ought to do. If, that is to say, many entries are so complicated, like that on page 70, that, though the sum of the debits equals the sum of the credits, the debits and the credits are not identical item for item, one cannot at a glance make sure that the total debits equal the total credits unless one takes the footings of the columns and compares them. To test a page made up of such items and to preserve the test by entering the totals in the journal, as a footing of the page, gives satisfaction not only to the bookkeeper but to anyone who has occasion to use the book. Such a total is shown on page 121.

We may note next that the custom has grown up in bookkeeping of making occasional entries which are distinctly false, but those entries are accompanied by other entries which offset the intentional error. The best illustration of this is on the cash book when discounts are allowed. The method is the same whether the discounts are those similar to interest, such as we had in the transactions worked out in detail in the last chapter, or are commercial



discounts allowed for early payment of bills. It is obvious that when we discount a note at a bank and receive the face of the note less the discount, the transaction is quite the same as if the bank gave us the face value of the note and then required us to pay the discount in cash. To make an entry as if that took place, then, is not essentially to falsify the record. If that actually happened we should on the credit or disbursement side of the cash book enter a debit to Discount; that is, we should enter on the credit side of the cash book the item "Discount," and this, of course, appearing on that side of the cash book means that Discount is debited. We should at the same time on the debit or receipts side of the cash book enter "Bills Payable" at the full face of the note, and this appearing on that side of the book is necessarily a credit to Bills Payable. When these items have been posted, each account has its proper balance of debit and credit; and the only falsification lies in an overstatement of the total amount of cash handled: for the receipts side of the cash book shows a sum larger than was actually received (by the amount of the discount) because we have debited Cash for the full face of the note though we have received less than that sum, and the disbursements side of the book shows a sum including the amount of the discount, though no cash was paid out on that score. This exaggeration of the amount of receipts and of disbursements does no harm, however, for since both sides are exaggerated alike the balance between them is accurate. This device saves the labor of splitting such entries between two books, for without it the discounts would have to go upon

the journal. It is illustrated on pages 122 and 123 in the discounts for January 10, 12 and 27.

Bookkeeping recognizes no such thing as subtraction. It would be extremely awkward if it were necessary to indicate in any place that a certain figure were to be subtracted from the figure above it, for then totals could not be taken without constant precaution that a sum to be subtracted were not added. It is often necessary, however, to produce the effect of a subtraction. This is always done by adding to the *other side* of an account the figures to be subtracted. Suppose an account shows a total of \$5,000 on the credit side, and \$4,000 on the debit side. Subtraction gives us a balance of \$1,000 credit. If we were to subtract that \$1,000 and bring down our \$4,000, we could then rule up the account as balanced and carry the balance down to the re-opening of the account. The same result is produced by adding \$1,000 on the debit side (for this gives \$5,000 on each side—which produces an equality), and then bringing down the \$1,000 as the new balance on the credit side. Such artificial insertions are usually made in red ink; for they thus call conspicuously to the attention of anyone reading the account the fact that the item is not a proper debit due to some responsibility assumed, but is artificially inserted merely to measure the excess of the other side. It is obvious that one may as well compare two things by adding to the smaller and seeing how much is required to make them equal, as by subtracting from the larger. The common method of balancing is just that: we see how big a thing is required to bring the small side up to a level with the large, and we insert

it in red ink to call attention to the fact that it is only the *measure* of the excess on the *other* side. Indeed, this is what we commonly do in comparing things with a yard stick. We measure the long and then the short, and see how large a piece would need to be added to the short piece to make up the length of the long. It is true, then, that the amount brought down on re-opening the account is not really the amount written in red ink on the other side. What we bring down is simply the excess on the big side, and it chances that the size of that excess is measured by the item written in red on the short side. As a working rule, however, we may say that an item written in red is always brought down on the *other* side,—but the reason is that the item simply measures an excess on the same side. This method is illustrated in the form of cash book shown on page 123. The same method is used in balancing a ledger.

In a cash book the item of balances is usually the only item which is not to be posted. A bookkeeper in running his eye up the column reserved for check marks, to see that no posting has been omitted, observes the blank space and has his attention arrested. He must look to see why the omission occurs. It is a convenience, therefore, to have a check in that column to satisfy the eye that the work is finished; at the same time it is worth while to use that check as an indication that the bookkeeper has looked to see that the balance brought down or carried over is the same as that inserted in closing; and this observation he should always make before putting the check mark into the column. As illustrated on pages 123 and 122, the last item on the credit side, \$2,894.65,



which is the closing balance, is checked with the February 1 opening balance on the debit side.

In modern practice it is common in posting to omit from the ledger everything except the date, the page number of the book of original entry from which the item is taken, and the amount. This has the advantage of reducing labor to a minimum, but there is a corresponding disadvantage lying in the fact that there is nothing to indicate in the posting just what is the nature of the transaction; and therefore it may be necessary often to look back to original entries to see what happened. Even a slight indication of what happened will usually suffice as a reminder of all that it is necessary for ordinary purposes to know, and this can be easily given by a mention of the other account concerned. If, then, in posting we always indicate in the ledger the name of that other account, such, for instance, as what was debited when Bills Payable (page 79) was credited, we have in the ledger a complete summary of each transaction. To do this, moreover, is not a serious task, for in books developed as most books are nowadays it is likely to happen that most credits to any account will be of the same nature—for instance, Merchandise or Cash or Notes,—and, therefore, after the name of the other account has once been written its duplication is indicated by simple ditto marks. The labor is inconsiderable, and then if any item of an unusual sort occurs it will be written in full in the ledger and will catch the eye readily if it is ever sought.

We have so far been concerned only with what are called the “principal books.” The work of

making and of finding desired records may be very much reduced if we keep certain memoranda in auxiliary books. These may not only relieve the principal books of a great burden of detail, but may show the information in a tabulated form convenient for reference. A good illustration of such auxiliary books is the so-called "bill book," in which are usually kept lists of all bills receivable and bills payable. A separate book, or portion of a book, is kept for each of these. The form of each of these books supplies a large number of columns for a complete record of all details concerning each note,—such, for instance, as the maker, the indorsers, the date, the time to run, the rate of interest, where the note is payable, its maturity, and the amount. Usually a dozen columns, one for each month, are provided for the date of maturity, so that it is necessary to write only the day of the month in the column for the month. This is a great convenience, for since notes mature usually not in the order of acquisition (because of different duration), it is something of a task, where there are many notes, to go through the list and pick out, without risk of error, all maturing on any particular day. If carelessness occurs, some notes fail of presentation or of payment at the proper time. When, however, a column is provided for each month of the year, and those notes maturing in each month are indicated by numerals on the proper line and in the proper column, one can at a glance see just what are coming to maturity in each month. If in a bill book all notes received and all notes issued are given artificial numbers in consecutive order, reference to them in the principal books—for

instance, the journal when they are received and the cash book when they are paid—may be made by simply mentioning the numbers with the addition of “B.R.” or “B.P.” to indicate whether the notes are bills receivable or bills payable. Then, if at any time one wishes to trace one of these notes or identify it, all the facts can be learned from the bill book. Thus, on the cash book, “B. R. No. 17 paid” is all the explanation necessary on the payment of the note bearing that number.

A similar arrangement is commonly provided for what are called “accounts payable,” that is, sums due to creditors. Since commonly discounts are offered for early payment of bills, it is a matter of much importance that no bill be allowed to run over the date of the highest rate of discount. Sometimes the rates run as high as seven or eight per cent. discount in case the bill is paid in ten days. This is too large an item to be neglected, and, consequently, every precaution should be taken that such a bill be not forgotten. For an accounts payable book, therefore, there may be wisely provided not only a column for each month in the year, so that maturities may be easily indicated opposite each bill, but even two, three, or four such columns to cover smaller intervals of time. If two columns are provided for each month, one will be headed “1—15,” and the other, “16—31;” if three columns are provided, the first will read “1—10,” the second, “11—20,” the third, “21—31;” if four are provided, the first will read “1—7,” the second, “8—15,” the third, “16—23,” the fourth, “24—31.” The same sort of thing may be desirable for accounts receivable, that is, sums due



from customers, though the need is not quite so great in this case, for there is less likelihood of loss of money by the neglect to know each day what bills are maturing at that time. The maturity columns in this book are serviceable mainly as a means of watching customers' accounts and following them up if bills are not paid promptly.

We will now see how the transactions worked out in detail during the discussion of the preceding chapter would be recorded under a system of bookkeeping which utilizes not only a journal, but also a cash book, a purchase book, and a sales book. [The reader who wishes to understand clearly the use of these books is recommended to turn back to these transactions, beginning on page 70 and, taking them one by one, make up his mind for each in what book it should be entered and in just what form. Then he should examine the form given in the following pages.]

[PAGE 1]

## [JOURNAL]

JANUARY 1, 1910

16 8	Real Estate Bills Receivable	Store building and notes as follows:	1500000	
		No. 1, \$1000, disc't \$10.00	500000	
		No. 2, 2000, " 10.00		
		No. 3, 500, " 1.25		
		No. 4, 1500, int. 21.25		
		Total, 5000, net dis. 6.25		
18 1	To Interest To Laurence Sterne	less discount Invested by him		625 1998375
80 12	Charles Dickens To Bills Payable	Accepted his draft for the amount of his invoice credited January 2	400000	400000
8 81	Bills Receivable To Anthony Trollope	Our draft on him, for his bill of Jan. 5, accepted by him	700000	700000
			24700000	24700000

Page 1]

## [CASH BOOK—DEBIT SIDE]

## RECEIPTS

Jan. 1	1	Laurence Sterne	Cash invested in business	1500000
10	12	Bills Payable	Discounted B. P. No. 2	500000
	8	Bills Receivable	Note of George Meredith paid	1500000
	18	Interest	Interest on note George Meredith	1725
12	8	Bills Receivable	Bills Receivable No. 2 discounted	200000
16	8	Bills Receivable	Note G. H. Lewes, dated Dec. 16, paid	50000
17	V	Merchandise	Goods sold to George Berkeley	30000
18	12	Bills Payable	Borrowed on B. P. No. 3	400000
22	22	Rent	Rent 3 mos., Edmund Burke	10000
23	84	Jonathan Swift	His bill of Jan. 13	57500
24	V	Merchandise	Goods sold	120000
25	85	Richard Steele	Bill Jan. 15 paid	20000
27	8	Bills Receivable	Discounted B. R. No. 6	70000
31	5	Cash, Debit	Receipts during January	3109225
		[This space is left blank to bring the total down to the level of the corresponding total on the disbursements page. If the total is first taken at the foot of the column, as shown, and then brought down as a new total, no forged insertions can be made.]		3109225
Feb. 1	V	Balance	Brought down	3109225
				289465



[PAGE 2]

## [CASH BOOK—CREDIT SIDE]

## DISBURSEMENTS

Jan. 1		Furniture & Fixtures			
35		Postage	Office & store furniture	50000	
39		Stationery	Stamps & stamped envelopes	1500	
41		Merchandise	Office books, stationery, ink, etc.	12500	
2	V	Freight	Bill of Charles Reade	300000	
3		Expense	Freight on goods received today	6500	
4		Delivery Equipment	Telephone bill paid to Apr. 1	2500	
30		Advertising	Horses & Wagon	50000	
48		Alexander Pope	In directory, 10.00; Journal, 15.00; Bulletin, 5.00	3000	
50		Wages	Merchandise bought from him today	600000	
52		Interest	One week's wages, Jan. 1-8	8000	
8	V	Merchandise	Discount B. P. No. 2	2500	
10		Interest	Bill of John Dryden	600000	
11		Bills Payable	Discount on B. R. No. 2	667	
12		Walter Scott	Paid B. P. No. 1	400000	
19		Insurance	His bill of Jan. 9	700000	
22		Real Estate	Policy No. 64,510, 3 yrs. on stock of goods	10000	
23		Fuel	Star Building Co., remodeling offices	30000	
24		Profit & Loss	Coal,—Wood, Woods & Co.	10000	
25	1	Laurence Sterne	Subscription to flood sufferers	10000	
27	18	Interest	Dry goods bill paid for Mrs. Sterne	7500	
29	1	Laurence Sterne	Discount on B. R. No. 6	93	
31	5	Cash, Credit	Cash drawn for personal use	15000	
	V	Balance	Payments during January	28197.60	
				289465	
				3109225	

## [PURCHASE BOOK]

JAN. 2

80	Charles Dickens	10 days			
	100 doz. No. 62	14.00	1400 00		
	200 " No. 57	13.00	2600 00	4000 00	
		2			
✓	Cash	(Charles Reade)			
	[Details should be shown as above or by invoice number]			3000 00	
		5			
82	Alexander Pope	Cash			
	[Details]			6000 00	
		9			
83	Walter Scott	10 days			
	[Details]			7000 00	
		11			
✓	Cash	(John Dryden)			
	[Details]			6000 00	
		30			
80	Charles Dickens	10 days			
	[Details]			1000 00	
		31			
25	Merchandise, Dr. Total for month			27000 00	

[The transaction for January 2 is exactly like that for January 5, and yet the two are treated differently. The difference is due to the fact that we wish the Pope sale to go upon the ledger, but do not care to distinguish the Reade sale from other miscellaneous sales.]

[PAGE 1]

## [SALES BOOK]

JAN. 5

81	Anthony Trollope	30 days	
	50 doz. No. 65	14.00	700 00
		13	
84	Jonathan Swift	10 days	
	[Details should be shown]		575 00
		15	
85	Richard Steele	10 days	
	[Details]		200 00
		16	
8	Bills Receivable	(Joseph Addison)	
	[Details]		600 00
		17	
✓	Cash	(George Berkeley)	
	[Details]		300 00
		24	
✓	Cash	(Henry Fielding)	
	[Details]		1200 00
		30	
84	Jonathan Swift	30 days	
	[Details]		500 00
		30	
85	Richard Steele	30 days	
	[Details]		500 00
		31	
25	Merchandise, Cr. Total for month		4575 00

Let us now examine the posting of these items. [The reader wishing to understand the method in detail is recommended to take the items one by one, as given in the books of original entry, pages 121-125, and make up his mind for each, before looking at the ledger form given, just what should be written in each column of the ledger.]



## LAURENCE STERNE

[Page 1]

Jan. 25	Cash	2	75 00	Jan. 1	Sundries	1	19993 75
29	"	2	150 00		Cash	1	15000 00

## CASH

[Page 5]

Jan. 31	Sundries	1	31092 25	Jan. 31	Sundries	2	28197 60
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## BILLS RECEIVABLE

[Page 8]

Jan. 1	Sundries	1	5000 00	Jan. 10	Cash	1	1500 00
16	Merchandise	1	600 00	12	"	1	2000 00
26	Anthony Trollope	1	700 00	16	"	1	500 00
				27	"	1	700 00

## BILLS PAYABLE

[Page 12]

Jan. 12	Cash	2	4000 00	Jan. 9	Charles Dickens	1	4000 00
				10	Cash	1	5000 00
				18	"	1	4000 00

## REAL ESTATE

[Page 16]

Jan. 1	Sundries	1	15000 00				
22	Cash	2	300 00				

## INTEREST

[Page 18]

Jan. 10	Cash	2	25 00	Jan. 1	Sundries	1	6 25
12	"	2	6 67	10	Cash	1	17 25
27	"	2	93				

## RENT

[Page 22]

				Jan. 22	Cash	1	100 00
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## MERCHANDISE

[Page 25]

Jan. 31	Sundries	1	27000 00	Jan. 31	Sundries	1	4575 00
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## EXPENSE

[Page 30]

Jan. 4	Cash	2	25 00				
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# PRACTICAL OPERATIONS OF BOOKKEEPING 127

## FURNITURE AND FIXTURES

[Page 35]

Jan. 1	Cash	2	500 00						
--------	------	---	--------	--	--	--	--	--	--

## POSTAGE

[Page 39]

Jan. 1	Cash	2	15 00						
--------	------	---	-------	--	--	--	--	--	--

## STATIONERY

[Page 41]

Jan. 1	Cash	2	125 00						
--------	------	---	--------	--	--	--	--	--	--

## FREIGHT

[Page 44]

Jan. 3	Cash	2	65 00						
--------	------	---	-------	--	--	--	--	--	--

## DELIVERY EQUIPMENT

[Page 48]

Jan. 4	Cash	2	500 00						
--------	------	---	--------	--	--	--	--	--	--

## ADVERTISING

[Page 50]

Jan. 4	Cash	2	30 00						
--------	------	---	-------	--	--	--	--	--	--

## WAGES

[Page 52]

Jan. 8	Cash	2	80 00						
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## INSURANCE

[Page 56]

Jan. 19	Cash	2	100 00						
---------	------	---	--------	--	--	--	--	--	--

## FUEL

[Page 58]

Jan. 23	Cash	2	100 00						
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PROFIT AND LOSS						[Page 60]	
Jan. 24	Cash	2	100 00				
CHARLES DICKENS						[Page 80]	
Jan. 9	Bills Payable	1	4000 00	Jan. 2	Merchandise	1	4000 00
				30		1	1000 00
ANTHONY TROLLOPE						[Page 81]	
Jan. 5	Merchandise	1	700 00	Jan. 26	Bills Receivable	1	700 00
ALEXANDER POPE						[Page 82]	
Jan. 5	Cash	2	6000 00	Jan. 5	Merchandise	1	6000 0
WALTER SCOTT						[Page 83]	
Jan. 19	Cash	2	7000 00	Jan. 9	Merchandise	1	7000 00
JONATHAN SWIFT						[Page 84]	
Jan. 13	Merchandise	1	575 00	Jan. 23	Cash	1	575 00
30		1	500 00				
RICHARD STEELE						[Page 85]	
Jan. 15	Merchandise	1	200 00	Jan. 25	Cash	1	200 00
30		1	500 00				

We have seen that it is possible to have any number of debits to Cash with only one posting to Cash. It can readily be seen that if we provide a special column in the cash book and into this carry all items belonging to any one account which needs to be credited when Cash is debited, we can post all those



credits in one lump sum quite as easily as we post the Cash debits. It often chances that a business is of such a nature that a large portion of the receipts or of the expenditures are of the same sort. A column provided for the account concerned makes it possible to reduce to a minimum the total number of postings for all transactions. Let us suppose, for instance, that of the cash expenditures one-half are chargeable to Expense. If we provide a special column for expenses so that all expense items shall be carried into that column and all other items into the principal column, we may then neglect the posting of all expense items until the end of the month. They have been "laid on the table," so to speak. The items extended into the general column will be posted to the ledger in the usual fashion, item by item; that is, the first, perhaps, to Bills Payable, the next to one of our creditors whom we have paid, the next to Freight, the next to Stationery. Then if at the end of the month we post the total of the special expense column to Expense, and carry that total into the general column so that it is included in the total credit to Cash, we have produced the desired result upon our ledger. We simply hold up the expense postings through the medium of a special column until the end of the month and then take them in a lump sum. So far as our cash expenditures are for expense, we are by the device of the special (expense) column in the special (cash) book providing that neither half of the entry—that is, neither Cash nor Expense—need be posted oftener than at convenient intervals, and then only in lump sums. One posting for Expense and one posting for Cash does all the work even though there

be five hundred such items. If, again, we assume that of the remaining cash expenditures one-half are for freight, and a special column is provided for Freight, to be treated similarly to that for Expense, we have reduced to one-fourth the items which must be posted one by one. In other words, the cash, comprising one-half of all postings, the expense, comprising one-fourth of all postings, the freight, comprising one-eighth of all postings, are made in totals, or three postings in all, and therefore the individual postings need be but the remaining one-eighth of the total. This device of special columns in the cash book is of almost universal use in businesses having anything more than a small number of transactions. The number of such columns is determined solely by convenience. For the sake of showing the arrangement of such a book, an illustration is given on page 131 showing, with slight changes, the entries for the transactions given in the common cash book form on page 123. In order to have several items to illustrate the special column, various accounts kept separate in the first form are in the new form combined in Expense. The arrangement of the debit side of the cash book would be exactly similar except that the special columns would be for the use of different accounts, for the accounts which bring in cash are usually different from those which cause it to go out.

## [SPECIAL-COLUMN CASH BOOK—CREDIT SIDE]

[PAGE 2]

## DISBURSEMENTS

Jan.		Furniture & Fixtures	Expense	Interest	Sundries
1	35	Office & store furniture			500 00
	✓	Stamps & stamped envelopes	15 00		
2	✓	Office books, stationery, ink, etc.	125 00		
3	✓	Bill of Charles Reade			300 00
4	✓	Freight on goods received today	65 00		
	✓	Telephone bill paid to Apr. 1	25 00		
48	✓	Horses & Wagon			500 00
	✓	In directory, Journal, Bulletin	30 00		
5	82	Merchandise bought from him today			600 00
8	52	One week's wages, Jan. 1-8		25 00	80 00
10	✓	Discount B. P. No. 2			600 00
11	✓	Bill of John Dryden		6 67	
12	✓	Discount on B. R. No. 2			400 00
	✓	Paid B. P. No. 1			700 00
19	83	His bill of Jan. 9			
	✓	Policy No. 64,510, 3 yrs. on stock	100 00		
22	16	Star Building Co., remodeling offices			300 00
23	✓	Coal,--Wood, Woods & Co.			100 00
24	60	Subscription to flood sufferers	100 00		
25	1	Dry goods bill paid for Mrs. Sterne		93	75 00
27	✓	Discount on B. R. No. 6			150 00
29	1	Cash drawn for personal use			32 60
31	18	Total	460 00	32 60	460 00
	30	Total			28197 60
	5	Payments during January			289 65
	✓	Cash, Credit			31092 25
		Balance			



Blank checks are used in the ledger-folio column to indicate that the work of posting is complete and that the bookkeeper has looked to see that the extensions for special-column items are in the proper columns.

It is obvious that this device is equally serviceable for other books if it chances that the transactions concerning any one account are numerous enough to make a saving of labor. For instance, if all our purchases are made of three firms it would be worth while to arrange our purchase book so as to provide one column for each of these firms. Then any purchase from any one of the three would be extended into the column kept specially for that firm, the total of the column would be posted at the end of the month to the credit of that firm, and the total of all columns would be posted at the end of the month to the debit of Merchandise. In such a case, then, four postings, one to Merchandise and one to each of the three firms of whom we buy, would be all that would be necessary for all the transactions of any month. Let us next suppose, to take an extreme case, that we buy from only three firms and that we make all our sales to four firms. It would then be possible with seven columns to get upon the ledger all merchandise transactions for the month with only nine postings—one to Merchandise debits, one to Merchandise credits, four to customers, and three to creditors—and this would be true however many purchases and sales were made.

Let us now carry this principle one step further. So far our discussion of the special column has been concerned with entries which are divided into two

equal halves, that is, those in which one debit equals one credit. One or both of these may be posted in a lump sum with other items. The use of the special column is possible also when one or both sides of the entry are cut up into several parts. Suppose, for instance, that in the case just assumed we are not selling merchandise on our own behalf but as agents for others. Let us assume, for the sake of simplicity, that we guarantee the payment for all sales made. In that case, whether we collect from our customers or not, we are responsible to the people for whom we sell. Finally, we assume that we never order goods until we have received orders for them, and so each purchase corresponds in every particular (except commissions) with a sale. We debit our customers at the maximum price and credit our creditors at that price less our commission. By providing a special column for commission and combining our purchase book with our sales book, we can in one entry debit the customer, credit the shipper, and credit Commission—all without repetition of a figure or a word and with only eight postings for any number of transactions, four for customers, three for creditors, and one for Commission. Such a combined book might look as follows:





Similarly, we may have in our journal special columns for those accounts coming most frequently in that book. When, for instance, we receive from our customers notes in payment of their bills, and when we give notes in payment of our own bills, the only book on which the entry can be made simply is the journal; for as neither cash nor merchandise is involved in the transaction the entry cannot go directly upon the cash book, the purchase book, or the sales book. If, therefore, we provide in our journal a special column each for Bills Receivable debits and for Bills Payable credits, we may avoid the necessity of posting journal debits to either of those accounts until the end of the month; then the total of the column for each kind of notes—debits to Bills Receivable and credits to Bills Payable—can be posted each as one lump sum.

Here is the obvious and common use of the special column. Its practicability in varying circumstances can readily be seen. The only limitations upon its use are two: first, if items are not of frequent occurrence in any book for any account, the handling of a special column may make more work than it saves—for it always involves some extra writing in the book of original entry; second, if we provide a large number of special columns for accounts not of great frequency our books become so bulky that time is lost in passing over dead columns and in picking out the exact column into which each entry should go. Illustrations are given below of a form of journal with special columns for Bills Receivable and Bills Payable. These assume settlement of items shown on page 134 to be made by notes. In addition will be

found another form used a number of years ago, which is an excellent illustration of some of the possibilities of the special column. This is called the columnar journal. It is a sort of combination cash book, purchase book, sales book, and journal. The Cash debit column is the same as the debit side of the common cash book. The Cash credit column is the same as the credit side of that book. The Merchandise debit column is the same as the purchase book, and the Merchandise credit column is the same as the sales book. This form of journal is useful for a small business having but few transactions. The illustrations here are based on the transactions shown on page 134, but assume that goods are purchased outright and that payment is made in cash for both purchases and sales.

## [SPECIAL-COLUMN JOURNAL]

L.F.		Bills Receivable Dr.	Sundries Dr.	Sundries Cr.	Bills Payable Cr.
	JAN. 1				
77	John Jay To Bills Payable				
✓	Our note sent John Jay in payment of goods sold today on his account <sub>2</sub>		498 75		498 75
✓	Bills Receivable	525 00			
62	To William Bradford Received William Bradford's note in payment of goods sold him Jan. 1			525 00	
73	Henry Clinton				
✓	To Bills Payable				
	Our note sent Henry Clinton in pay- ment of goods sold today on his account		665 00		665 00
✓	Bills Receivable	700 00			
50	To Samuel Adams Received Samuel Adams's note in pay- ment of goods sold him Jan. 2			700 00	
8	Bills Receivable, Dr.	1225 00	1225 00		
12	Bills Payable, Cr.		2388 75	1163 75	1163 57
				2388 75	



## [COLUMNAR JOURNAL]

Cash	Mer- chan- dise	Sun- dries	L. F.	JAN. 1	Sun- dries	Mer- chan- dise	Cash
	49875		✓ 77	Merchandise To John Jay	49875		
		52500	62 ✓	Bought goods invoice No. 57 2		52500	
		49875	77 ✓	William Bradford To Merchandise			
			✓	35 bbls. Beef @ 15.00 3			
			✓	John Jay To Cash			49875
			✓	Paid his invoice No. 57 4			
	66500		✓ 73	Merchandise To Henry Clinton	66500		
52500			✓ 62	Bought goods invoice No. 58 5			
			73 ✓	In settlement of bill of Jan. 2	52500		
		66500	✓	To William Bradford			66500
			✓	Henry Clinton To Cash			
	70000		50 ✓	Paid his invoice No. 58		70000	
			✓	Samuel Adams To Merchandise			
70000			✓ 50	70 bbls. Pork @ 10.00 7			
			2 ✓	Cash To Samuel Adams	70000		
		122500	2 ✓	In settlement bill of Jan. 5			
122500		116375	2 ✓	Total			
	116375		2 ✓	Cash, Dr. Merchandise, Dr.	116375		116375
			5 ✓	Cash, Cr. Merchandise, Cr.			
		377750					

## CHAPTER VI

### DRAWING CONCLUSIONS FROM THE BOOKS

Since the purpose of all accounting is to present the ultimate truth regarding values and profit and loss, the most important thing of all is that the record shall be summarized in a form bringing out clearly the desired figures. The preparatory step is, if possible, to prove the correctness of the record. We have seen all along that debits must equal credits, for whenever we have debited any account as responsible we have credited some other account as conferring the responsibility. Since, then, we have all along provided that debits shall equal credits in our original entries, it must be true that, if our posting is correct, the total debits of our ledger must equal the total credits of our ledger. The device to test correctness is simple. It usually takes the form of what is called a "trial balance." In its simplest type the trial balance is a sheet containing the names of all ledger accounts and in debit and credit columns opposite each name an extension of the amount of the debit and credit total of that account. Then the sum of all the debits of all accounts should equal the sum of all the credits. To make such a trial balance, however, is a little more than is necessary. It is obvious that all accounts which have been closed, so that they now show no excess of one

side over the other, are by that fact already proved to have debits equal to credits; and since our only purpose in the trial balance is to test the equality of debits and credits, we have no need of these accounts on the trial balance. Similarly, if we wish, we may omit all but balances on the accounts still standing open; for as the balance is nothing but the excess of one side over the other, in omitting all except the balance we are simply omitting items already proved to be equal. An adequate form of trial balance, therefore, is the trial balance of ledger balances. This is valuable, too, as a summary of the business at the date of the trial balance. It should be preserved for reference. Below will be found two trial balances for the ledger shown on pages 126-128. The first is the trial balance of ledger totals, and the second is that for ledger balances. In both, the numbers at the left of the names indicate, for reference, the numbers of the ledger pages on which the accounts are found.

One inexperienced in bookkeeping is surprised to learn how frequently a trial balance fails at first to show the desired equality of debits and credits. Errors in posting are much harder to avoid than the novice is likely to think. It is easy, for instance, to post an item to the wrong side of an account. A bookkeeper engaged in posting is shifting continually from one side to the other of his ledger, and unless he watches himself very carefully or is thinking constantly of the meaning of every posting he makes—which, as a matter of fact, he finds difficult because of the monotony of the routine labor of posting,—he is in danger of losing all adequate sense



# DRAWING CONCLUSIONS FROM BOOKS 141

## [TRIAL BALANCE, JANUARY 31.—TOTAL DEBITS AND CREDITS]

1	Laurence Sterne	225 00	34993 75
5	Cash	31092 25	28197 60
8	Bills Receivable	6300 00	4700 00
12	Bills Payable	4000 00	13000 00
16	Real Estate	15300 00	
18	Interest	32 60	23 50
22	Rent		100 00
25	Merchandise	26000 00	3575 00
30	Expense	25 00	
35	Furniture & Fixtures	500 00	
39	Postage	15 00	
41	Stationery	125 00	
44	Freight	65 00	
48	Delivery Equipment	500 00	
50	Advertising	30 00	
52	Wages	80 00	
56	Insurance	100 00	
58	Fuel	100 00	
60	Profit & Loss	100 00	
80	Charles Dickens	4000 00	5000 00
81	Anthony Trollope	700 00	700 00
82	Alexander Pope	6000 00	6000 00
83	Walter Scott	7000 00	7000 00
84	Jonathan Swift	1075 00	575 00
85	Richard Steele	700 00	200 00
		<u>104064 85</u>	<u>104064 85</u>

## [TRIAL BALANCE, JANUARY 31.—BALANCES]

1	Laurence Sterne		34768 75
5	Cash	2894 65	
8	Bills Receivable	1600 00	
12	Bills Payable		9000 00
16	Real Estate	15300 00	
18	Interest	9 10	
22	Rent		100 00
25	Merchandise	22425 00	
30	Expense	25 00	
35	Furniture & Fixtur	500 00	
39	Postage	15 00	
41	Stationery	125 00	
44	Freight	65 00	
48	Delivery Equipment	500 00	
50	Advertising	30 00	
52	Wages	80 00	
56	Insurance	100 00	
58	Fuel	100 00	
60	Profit & Loss	100 00	
80	Charles Dickens		1000 00
84	Jonathan Swift	500 00	
85	Richard Steele	500 00	
		<u>44868 75</u>	<u>44868 75</u>

of what he is doing, and is likely to post to the credit side an item which ought to go to the debit.

The detection of this sort of error through the trial balance is sometimes easy. If the bookkeeper has posted to the wrong side he has produced an error in the ledger of double the amount posted; for, by posting to the wrong side, he has not only made one side larger than it ought to be, but he has necessarily made the other side smaller than it ought to be; and whenever we at the same time make one side larger and the other smaller, we are establishing between the two a difference twice as great as the amount of error. This may be illustrated by very simple figures. Suppose we have to post  $2+3+4$  to one side, and  $6+2+1$  to the other. These should give equality, or 9 on each side of the trial balance. Suppose, however, in making the last posting—which would be, we will say, adding 1 to the credit side,—we make the error of adding it to the debit side. Then our debit side reads  $2+3+4+1$ , and our equation reads, since our 1 is now omitted from the credit side by the error,  $2+3+4+1=6+2$ ; which is a false equation by twice the sum of the original error, or  $10=8$ . When, therefore, a bookkeeper finds in getting the total of his trial balance that one side is larger than the other by a sum divisible by two, he recognizes a possibility that the error arises from a mistake in posting—or, what is quite as likely, a mistake in drawing off figures from his ledger to the trial balance—so that some amount is placed on the wrong side. If the amount of discrepancy divided by two is a peculiar figure, such, for instance, as \$463.29, it is a matter of but a moment usually to see

whether that sum is among the figures involved in the month's transactions either in the trial balance itself or among the original entries. If that figure appears, the posting should be examined to see that it has not got upon the wrong side.

It is extremely easy for a bookkeeper to make a slight error in addition. This will usually affect only one or two digits in a number, and therefore if his trial balance fails of proof by a discrepancy of one or two figures—for instance, one side of the balance reading \$164,213.20 and the other side \$164,313.20,—he has three possibilities worth noting: first, the error may be \$50 on the wrong side in the original entry—for the discrepancy is \$100, and \$50 is one-half of it; or it may be in transferring from the ledger to the trial balance an item of \$50, so that it has got upon the wrong side; or he may have made an error of 1 in adding his totals on the ledger, in striking a balance from his ledger totals, or in adding the trial balance itself. In the attempt to find the error he will naturally look first at the places where it would be most quickly discovered if it existed there; and, therefore, he will first examine the footings of his trial balance, then the transfers from the ledger to the trial balance, next, the figuring of ledger balances themselves, and, finally, the additions of ledger figures. If the error is still undiscovered he will naturally turn next to the additions of sums posted to the ledger in total; that is, the additions of his purchase book or sales book or cash book. Obviously, if in adding the figures of his sales book he has made an error of \$100, the amount posted as a debit to customers will be correct because composed of the indi-



vidual items, but the posting credited to Merchandise, being derived from a false addition of the sums properly debited to customers, will be incorrect by the amount of the error in addition.

A very common error in posting is due to the fact that we can all remember figures better than we can remember the order of those figures. Most of us have had the experience at one time or another of writing, for illustration, 623 when we meant 632. A bookkeeper who is engaged for hours consecutively in making postings, especially of large figures, is likely to make a number of transpositions of this sort unless he watches himself with extreme care. It is an interesting fact that any transposition of figures will produce a discrepancy divisible by 9. The difference between 34 and 43, for instance, is 9; between 27 and 72 is 45, which is divisible by 9; and so on with any number of digits in any possible rearrangement. It is sometimes worth while, therefore, for a bookkeeper to make the test of dividing his discrepancy by 9 to see whether possibly some figure has been transposed. If he finds the probability here he may be helped to find the error, but usually not,—though the probability may suggest to him where he had best look to see the mistake. In case the discrepancy is divisible by 9, a relation can be found between the amount of discrepancy and the figures transposed; for instance, if the discrepancy is 9, division by 9 gives 1, and this 1 indicates that the difference between the figures transposed is 1,—that is, 23 for 32 or *vice versa*, or 34 for 43, or 45 for 54, or 56 for 65, or 67 for 76; and the difference between 461 and 164 is 297, which divided by 9 gives 33,

indicating by its repetition of 3 (not necessary to explain here) that the middle figure is not changed, and by the 3 that the difference of transposed digits is 3 (4—1); and the difference between 461 and 146 is 315, which divided by 9 gives 35, indicating that the difference between the first two figures is 3 and between the last two figures is 5. This is of very little avail to a bookkeeper with thousands of figures before him, however, except as a hint to watch for the transposition of figures with the difference indicated.

We know that unless there has been some mistake in adding figures to be posted, or in posting, or in striking balances on the ledger, or in transferring figures to the trial balance, or in adding the trial balance, the trial balance debits must equal the trial balance credits, and it is worth while to find wherein lies any discrepancy. We must not think because the discrepancy is only a few cents that the error is trivial; for obviously a dozen errors, some on one side and some on the other, would produce a balance of error of merely the difference between the debit errors and the credit errors. In other words, the size of the discrepancy on the trial balance gives no indication whatever of the number or size of the errors in the books. For instance, an error of \$5,000 omitted from the debit side, another of \$10,000 omitted from the credit side, another of \$15,000 omitted from the debit side, and \$9,999.99 omitted from the credit side, would give a balance of error of just one cent; for the total debit errors are \$20,000 and the total credit errors \$19,999.99. It is never safe, therefore, to proceed with the books if the slightest error is disclosed in the trial

balance; for the discrepancy indicates unknown error or errors of unknown amount in the books of original entry or somewhere between the original entries and the trial balance footings.

One class of error may persist in the books in spite of a trial balance which proves an equality of debits and credits. If, for instance, we have by a careless posting credited Robinson when we meant to credit Brown, we have done nothing which affects the trial balance. The trial balance does not indicate that every figure has been carried to the proper account, but only that every figure has been carried to the correct side of some account. No one must rest in the false assumption that his books are correct because he has a good trial balance. The trial balance does establish a strong presumption that the books are correct, for an amount is much more likely to get upon the wrong side or to be entered with an error in the figures than wholly in the wrong part of the ledger. Without a trial balance, on the other hand, the assumption is that the books are not correct; for no bookkeeper can work without occasional error.

In one other case—very improbable, however—a trial balance may show equality of debits and credits and yet not prove the correctness of the books. Just as errors may occur in determining balances or in transferring to the trial balance, thus throwing out the trial balance though no errors exist on the books themselves, so such errors might happen by chance to offset errors in the books; and thus an error of \$423.10, for instance, in the books might chance to be exactly offset by an error on the other side of \$423.10 in striking balances or in drawing off the



trial balance. This occurrence, however, is very much against the law of chance. The chances are several thousand to one against it in even a small business, and perhaps a million to one against it in a large business. Should such a thing occur it could not continue long, however; for it is against all reason that it should occur again another month, and a trial balance that failed to show equality would soon disclose the error.

Sometimes a month's trial balance fails "to come," that is, to show equality of debits and credits, after a test of all the sorts known to bookkeepers. These tests are intended merely to suggest probabilities with regard to the error. When they fail, the only hope lies in going back over the work of the month, item by item. The desirable thing usually is to go over, item by item, all the postings of the month, rechecking them with care both in the books of original entry and in the ledger. This checking is usually done with a hard, fine pointed pencil, and the check marks are placed in the double ruling where they are not conspicuous. Great care should be taken that no item is checked either in the book of original entry or in the ledger until its counterpart in the other has been found to be upon the right side and has been found to be of the right amount. To check it in the book of original entry before its counterpart has been found is to run the risk that the whole purpose of checking will fail. When all the work has been checked up in this fashion, a survey of the books of original entry and of the ledger should show at once whether any item has been entered without posting, and whether any posting has been made without a

corresponding source in an original entry; and, of course, if any entry is checked twice, or if, when on the point of checking it, one finds that it has been already checked, something is wrong at that point. If this checking fails to disclose the error, the case is discouraging. Most bookkeepers would at this point begin all over at the very start as if they had heretofore made no effort to find the error.

If still on a second round of discovery the error is not found, the presumption is that it is in the books of the preceding month; but still the human eye and the human hand are so fallible that it is usually worth while to try another device before going back. This device should determine whether the error is in this month's work. Since for each individual entry the debits must equal the credits, the total debits for all the accounts for any month must equal the total credits for all the accounts for that month; and if we were to take a trial balance for the items of this month alone, regardless of any items on the ledger prior to the beginning of this month, we ought to find the debits equal to the credits; that is, if in a trial balance including only this month's items the debits do not equal the credits, and there is no mistake in drawing off the trial balance, the error is in the books for this month. This fact is just what we wish to learn. It is a comparatively simple matter to take a trial balance for the items of this month. When the ledger accounts are not numerous, this may usually be done by simply making a new trial balance for the figures added since the last balance was taken; but if the number of accounts is very large, so that it is difficult to see from the ledger just what items belong to

this month, it will be simpler to make new postings, on independent sheets of paper, for the items of this month alone and then take a trial balance of those independent ledger postings. If we have then a trial balance which proves, it is obvious that the error which we have been hunting for is not in the books of original entry for this month. It is either in this month's ledger figures, or it is of earlier date than this month's transactions. If we add our new one-month trial balance to last month's trial balance, so as to produce a new one, a comparison with the faulty balance will show in what accounts there is discrepancy. Then study of the situation will show just where is the trouble.

It is sometimes thought worth while to learn on which side of the ledger an error disclosed by the trial balance is to be found. If we use, in our trial balances, not the balances of open accounts, but the total amounts of debits and credits for each open and closed account, we can learn by subtracting one month's totals from the preceding month's totals what is the actual total of all ledger debits and of all ledger credits posted for that month. The total of the purchase book, the sales book, both sides of the cash book, and either side of the journal, will indicate the total amount of new debits which ought to have been made to all accounts during the month; that is, since from the purchase book we debit Merchandise, from the sales book we debit customers, from one side of the cash book we debit Cash and from the other side debit recipients of cash, and from the journal we debit all other items, the total of all these must be the total debits of the month. Sim-



ilarly, the total of the purchase book, the sales book, the cash book, and either side of the journal, will be the total necessary credits for the month; for we have credited our creditors from the purchase book, have credited Merchandise from the sales book, have credited Cash from the disbursements side of the cash book and have credited sources of cash from the receipts side, and have credited miscellaneous accounts from the credit column of the journal. We have now a complete statement of what this month's debit postings and credit postings ought to be, and what the postings for each side actually are; so one can readily see which side of the trial balance is in error. This may reduce the labor of finding the particular fault. Some firms keep their trial balances in double form, showing both totals and balances. If totals are entered in black and balances in red, confusion is avoided.

We now assume that our books have been properly posted, and that the trial balance has been taken to give us evidence that there is no error. We are concerned next, then, to draw conclusions from the records preserved upon the books. Remembering that we have three kinds of accounts, one representing property, another representing persons, and a third representing known forces, we may, by treating each of these classes of accounts as its nature warrants, determine just how much property is in the business and how great are our profits and our losses. As we saw long ago, the total of all personal accounts showing a debit balance represents claims; the total of all property accounts showing a debit balance represents property; and the total of all personal ac-

counts (excluding that of the proprietors) 'showing a credit balance represents debts. So the sum of these debits less these credits represents the total net assets of the business. The account of the proprietors, which is really a personal account, represents their investment; but the business, though accountable to the proprietors, is not responsible to repay them; it needs merely to show what it has done with the value entrusted to it. If the business has suffered a loss, the net assets will not suffice to meet the liability to the proprietors, and if it has earned profit, the assets will more than meet that liability. The net investment of the proprietors, moreover, is shown as the credit balance of their personal account. The total of *all* personal accounts having a credit balance, then, must be covered by all the assets, or the business has suffered loss. Any excess is gain for the period under consideration; for since the proprietors are credited with their investment as it stood at the beginning of the year (plus any investments made during the year, and less any withdrawals of investments), the excess of total assets over the total liabilities (including the proprietors' investment) shows the amount of increase of assets, or net gain, resulting from the operations of the business for the period. Similarly, a deficiency in assets shows net loss for the period.

The nominal accounts, on the other hand, since they are debited for losses and expenses and are credited for earnings or gains, also must show this same net gain or net loss for the earning period; for since we have never debited or credited one of these nominal accounts unless we were at the same time cred-

iting or debiting some personal account or property account (except in the mere case of a transfer from one nominal account to another, which does not affect the total of them all), the net balance of all nominal accounts must exactly equal the net balance of assets and liabilities. Any excess of assets over liabilities, we have seen, indicates an increase of property, and since nominal accounts were credited whenever there were increases in property to explain, the net credit to such nominal accounts must equal the excess of assets over liabilities. Similarly, if the liabilities, including the liability to the proprietors, are in excess of the assets, it is because the business has lost property through shrinkage or expense or bad debts; and since all decreases in property were credited to the proper accounts and at the same time debited to nominal accounts by way of explanation, the net balance of debits shown by the combined nominal accounts must exactly equal the net deficit of assets. So our method of double entry is fulfilling its function by giving us at the end of the period an explanation in nominal accounts of all changes in property accounts.

This is best made clear in drawing conclusions at the end of an earning period by arranging a table containing six parallel columns to show the debits, the credits, the assets, the liabilities, the losses, and the gains. If each kind of property were always worth exactly the amount of net debits standing to its account on the ledger, four columns would do as well as six, for all debits to property accounts and personal accounts would be resources, all credits to personal accounts would be liabilities, all debits to nom-



inal accounts would be losses, and all credits to nominal accounts would be gains; but as a matter of fact, as we have seen in the treatment of Merchandise, sometimes our debit to a property account does not represent the present value of property on hand, for there are likely to be increases and shrinkages in value which have not yet been entered on the books. Our Real Estate, for example, will nominally be debited for the value of real estate at the beginning of the year, but if there is some depreciation, as is sure to happen with regard to buildings on which there have not been large repairs, we are not quite representing facts as they are if we leave the value on our books at the end of the year as it was brought down at the beginning of the year. This amount of depreciation is clearly a loss, and we should indicate it not only by bringing down a new valuation on that account, but also by entering the difference or shrinkage among the losses. Since the basis for our judgment of values and of profit and loss is the trial balance, it is well to incorporate the trial balance in this statement; and, therefore, it is usually convenient to use a six-column form, as shown below. The figures used for illustration are taken from the trial balance on page 141. The statement is immediately followed by a detailed explanation of its construction and meaning.

We have here but one month's transactions, but for illustration of the method of determining profits they will do as well as would figures for a longer period. We will proceed to extend the debit and credit trial balance columns into (1) the resource and liability columns and (2) the loss and gain columns,

## [SIX-COLUMN STATEMENT, JAN. 31]

	Dr.	Cr.	Resources	Liabilities	Losses	Gains
1 Laurence Sterne						
5 Cash	2894 65	34768 75	2894 65	34768 75		
8 Bills Receivable	1600 00		1600 00			
12 Bills Payable		9000 00		9000 00		
16 Real Estate	15300 00		15275 00		25 00	
18 Interest	910			833	17 43	
22 Rent		100 00		90 00		
25 Merchandise	22425 00		23376 10			1000
30 Expense	25 00		1875		625	951 10
35 Furniture & Fixtures	5000 00		495 00		5 00	
39 Postage	15 00				15 00	
41 Stationery	125 00		120 00		5 00	
44 Freight	65 00				65 00	
48 Delivery Equipment	5000 00		495 00		5 00	
50 Advertising	30 00				30 00	
52 Wages	80 00				80 00	
56 Insurance	100 00		9875		125	
58 Fuel	100 00		85 00		15 00	
60 Profit & Loss	100 00	1000 00		1000 00	100 00	
80 Charles Dickens	500 00		500 00			
84 Jonathan Swift	500 00		500 00			
85 Richard Steele	44868 75	44868 75	45458 25	44867 08	36983	951 10
		Net gain	591 17		Net gain	36983
						591 17

making all necessary allowances for depreciation, losses and profits.

It must be recognized in the first place that every account on the books represents property or claims on the one hand, or profit or loss on the other. Every item in a trial-balance column, then, must be extended into one of the other columns. The task is to choose the column. If, indeed, any allowances are needed because the books have not brought our record quite down to the end of the period, some of these amounts will need to be extended into two columns. As a matter of fact, it is impossible for the books in the ordinary course of affairs to represent the exact situation of all accounts day by day. Many things are occurring to change values every day and every hour, and to keep the books written up to the latest situation would require altogether too much labor. Interest, for instance, is accruing every day, and to keep our interest account always up to the moment would mean figuring upon all notes and bonds daily. Wages, again, are constantly accruing, and whatever figure we should have on our books at ten o'clock in the morning, indicating the condition of the wages element of cost, would need to be altered at eleven o'clock. Taxes are accruing every day; the same thing is true of insurance, of depreciation, of everything else which is dependent upon the lapse of time. Recognizing the absurdity of attempting to keep books always up to the moment, we attempt to record facts on the books only at times when the facts reach some culmination,—such as actually becoming due so that payment can be demanded, or adjusted to a specific date because at that date it is desired to de-



termine as closely as possible actual profit, loss, and valuation. We must, then, at any time when we desire to ascertain our profits, bring our books down to the date chosen for this purpose. This will necessitate many allowances. It is convenient to indicate these allowances first on the six-column statement, using red ink in the resource and liability columns to show that the amounts are different from those shown on the books. The use of red ink is not essential, but it is of great assistance to the eye because it calls attention to the fact that the amount so entered is taken by a calculation made outside the books and is not quite in accord with the books themselves. When the six-column statement is complete and has been proved, its conclusions may be entered on the books. Let us work out the process in detail.

The first account, that of the proprietor, Laurence Sterne, may be at once extended into the liability column, for the business is still responsible to him for his investment. It is obvious that when we have finished our determination of profits any balance will belong to him, and may then be carried to his account; but for the present, since the purpose of this sheet is to learn the profits, we are concerned only with the present credit to his account before the profits of the year have been determined. Cash will, of course, be an asset, and may be entered directly in the resource column. Bills Receivable is also an asset. Bills Payable is a liability, and should be so extended.

Real Estate, representing on the books what was supposed to be the value of the property at the beginning of the period plus any additions made dur-

ing the period, may or may not represent exactly the value today. There has been, presumably, some depreciation, even though in the course of one month it will be slight. On general principles, however, we know that any real estate is constantly running down hill unless a change in land values more than offsets a change in buildings. In this case, to be on the safe side, we consider the property to have depreciated to the amount of \$25, and, therefore, we insert in the resource column in red ink the amount of \$15,275. The difference between \$15,275, which we conceive to be the present valuation, and the original \$15,300, is a loss of \$25, and this is entered in the loss column.

Our next account, Interest, presents more complication. We have debited Interest for all sums which we have lost because of the force which interest account represents, and we have credited Interest with all sums accruing to us from that source, whether collection has actually been made or not. When, for instance, we took at the beginning of the year certain notes belonging to the proprietor, we credited him with less than the face of the notes because we must wait for the money until some time in the future. Some of these notes do not mature until later than the end of the month, and yet our credit to Interest was made as if the profit had been already realized; the first note, for example, was dated January 1, and does not mature until March 1. Yet on this note we credited to Interest the whole difference between the face value and the amount allowed Sterne. When we are concerned to learn not only the total profits for all time but for a particular period, such, for example, as those for the month of January, we must be care-

ful that we are not giving credit in January to sums which will not be really *earned* until later. To do so may misrepresent very seriously the profitableness of one period as compared with another. To do justice to the month of January, we must now see how many of the interest items, debited and credited and still to be debited and credited, have actually been gained or lost during this month. This can be readily learned by going over the record of the notes now held in our safe and of those outstanding against us. If we have a bill book, as we should in actual business, we can at a glance by referring to that book see which of the notes are now outstanding; for as soon as any is paid, either to us or by us, it will be marked "Paid" in that book. Having no such book before us, however, we may now turn directly to the ledger accounts for Bills Receivable and Bills Payable and see what notes have not been canceled. We find that there remains of Bills Receivable one note for a thousand dollars, which, as just indicated, has one month to run; the interest on this will be \$5 at six per cent., and, therefore, since we credited \$10 to Interest at the time we took the note, \$5 of this should not be considered as yet earned, but should be carried over to February. This \$5 ought, in a sense, to be debited back to January and credited to February. We also hold a note dated January 16, due in thirty days, which now has fifteen days to run. The business must wait, therefore, fifteen days before it can realize upon that note, and since the month of February does not inherit from January quite so much as the books indicate—that is, it inherits a note for \$600, but must wait fifteen days before that amount can be collected



—this discount, of \$1.50, should also be deducted from January earnings under Interest. These two items together give us \$6.50, which should be considered as a liability of January toward the month of February. In addition, moreover, we issued on January 18 a note for \$4,000, bearing interest; the interest on this has already accumulated to \$9.33, which January has thrust upon February or some future month to bear. This interest, therefore, ought to be charged against January, though it is not payable for some time to come. The sum of these items, \$6.50 and \$9.33, gives us \$15.83, the total liability of January to the future. We have, on the other hand, one item which serves to offset this. Turning to Bills Payable, we find that on January 10 a note for \$5,000 was issued, not bearing interest. We received for this note the face value less interest, \$4,975. Of this \$25 charged to Interest, a part, \$7.50, was really chargeable to February because the note does not become due until February 10. We must, therefore, allow January this \$7.50, for of this loss February will reap the benefit through the use of the money. This amount deducted from our \$15.83, previously found to be a liability of January, leaves January a net liability to the future of \$8.33. This we now enter in red ink in the liability column of our six-column statement. Interest account is shown by our trial balance to have caused a loss of \$9.10 already charged against it, and this additional net liability for \$8.33, not yet on the books, gives us a total loss on account of interest of \$17.43, which we enter in the loss column of our statement.

With regard to Rent we have a somewhat similar

situation. The trial balance shows a credit to Rent of \$100, which was for a payment three months in advance. Approximately one-tenth of that rent has already been consumed or furnished by the month of January, and, consequently, nine-tenths remains as a liability of the business; that is, the business is still responsible to supply office room, or, in default of doing so, to return the money. That \$90 is, accordingly, a liability, and the profit from this source belonging to the month of January is only the difference between the \$90 and the \$100, or \$10. So we enter \$90 in the liability column in red ink (to show that the \$90 does not appear anywhere upon the books) and carry \$10 into the gain column.

We have already worked out a number of cases with regard to Merchandise, and, therefore, need not dwell upon the calculations here. We have only to enter in our resource column the present inventory of Merchandise, or \$23,376.10, which we write in red ink to indicate that the figure is not taken from the books, and then to extend the difference between the trial balance debit and the inventory into the gain column as \$951.10. If the balance of Merchandise were in the credit column of the trial balance, we should know that the sales had already brought in more, by that amount, than the cost of merchandise, and to find the profit we should add the inventory to that credit excess. This sum would be carried to the gain column.

Our expense, we find, was incurred for telephone service, and the charge was for three months in advance. Approximately one-fourth of it has now expired, and we consequently enter in the resource col-



umn \$18.75 in red ink, for this amount is still an asset, and we carry \$6.25 into the loss column, as the amount consumed. Our furniture and fixtures are conceived to have shrunk in value \$5, and consequently we write \$495 in the resource column and \$5 in the loss column. We find that we have practically no stamps on hand, and consequently we have no resources from the \$15 expense for postage, and so we extend the full amount into the loss column. Most of the other items are shown with sufficient clearness on the six-column statement itself and require no comment except the general statement that wherever an item appears in red ink the amount is conceived to be either the value of what remains of the property originally charged to the account named, a claim accrued but not yet due, or a liability to be met, and the combination of that sum with the trial-balance figure gives the loss or gain.

The accounts of Dickens, Swift, and Steele will be extended in the six-column statement exactly as they appear upon the trial balance, for no allowance need be made in connection with them. As the business owes Dickens, the amount will be extended as a liability; and as Swift and Steele owe the business, the amounts will be extended as resources.

We are now ready to put our conclusions into more summary form. It is evident that the net profit of the business is the sum of the column of gains less the sum of the column of losses. A little consideration will remind us that there ought to be also another method of getting the same profit and loss,—namely, from the relation of resources and liabilities. Our resource column shows what we now have on hand,



and our liability column shows everything for which the business is accountable, both to outsiders and to the proprietor. The difference between the resources and such liabilities, we saw long ago, is profits. If our books have been properly kept, since whenever we made a profit or suffered a loss we credited or debited some profit and loss account as well as debited or credited the property account concerned, the difference between resources and liabilities should exactly equal the difference between losses and gains. We find when we take totals of the columns of our six-column statement that the resources equal \$45,458.25; that the liabilities equal \$44,867.08; and the difference is \$591.17—or net profit as shown by the increase of assets. We find, on the other hand, that the total gains, as shown by the gain column, are \$961.10; we find the total losses to be \$369.93; and the difference is \$591.17. In other words, our explanation or nominal accounts have shown from what sources we have made a profit of \$591.17, and our real accounts have shown property distributed through various asset accounts to have been increased during the year by the same amount, or \$591.17. Thus, our six-column statement has proved, and our books may be assumed to be correct unless we have made some error in valuation of the property remaining. This balance of \$591.17 belongs, of course, to the proprietor.

It is to be remembered that the figure of profit which we have obtained does not now appear upon the books. It has been derived to great extent from figures not shown upon the books, such as the valuation of merchandise, the calculation of expired in-

surance premiums, etc. If we wish our books to show what is the profit at this time, and so distinguish this profit from future profit, we must bring our books into accord with the facts by entering upon them the allowances which we made on the six-column statement. This may be done by either of two methods. The simple way is to enter on each ledger account any allowance that may be necessary and then to transfer to Profit and Loss on the ledger the balances of all accounts showing profit or loss. The second method makes use of journal entries.

In illustration of the first method, we may well take ledger accounts showing the balances found in the trial-balance columns of our six-column statement on page 154. Beginning with Real Estate, which happens to come first on our list, we should insert in red ink on the ledger, just as we have done on the six-column statement, the amount of \$15,275 on the credit side. A credit to Real Estate indicates that the account is relieved of its responsibility by that amount. As a matter of fact, if we close the books for the end of January and are going to bring down balances for the month of February, it is true that the real estate account is, so far as January is concerned, relieved of responsibility to that amount, and, consequently, there is warrant for making this entry. It is made in red ink to indicate that the item consists of a mere transfer and does not come by posting from books of original entry. When we have made this entry of \$15,275 on the credit side, the account shows a balance of \$25 for the debit excess. (See page 167.) If this \$25 is not now remaining in the property, as is here the case, it indicates a loss; we

accordingly enter on the credit side in red ink the item "Profit and Loss, \$25"; that is, we have balanced the account by measuring the shortage, by the method indicated some time ago. Here, however, our shortage is not to be carried down to the new month, as usually it is, but to be carried to another account, namely, Profit and Loss. We accordingly turn at once to Profit and Loss and enter on the debit side the item "Real Estate, L. 16, \$25." (See page 169.) This is entered on the debit side because it is a transfer, to this account, of an excess debit in Real Estate; for, as we previously indicated, the red ink entry on the credit side of any account measures simply the excess of the debit side. The symbol "L. 16" indicates that this item is brought to Profit and Loss not from a book of original entry but through the ledger, page 16, by a mere transfer. Turning back now to Real Estate, we see that the inventory entry, \$15,275, which represents the property now on hand, will be inherited by February, and this amount, accordingly, must be brought down as a new debit balance for February first. To summarize this treatment for Real Estate, we may say that we write two items on the credit side of the account in red ink to indicate the amount of debit excess of that account, and of these two items one represents a sum carried down to February, and, therefore, chargeable to February, and the other represents a \$25 loss of the excess of the January debits over the amount transferred to February; and this excess, a pure loss, is transferred to Profit and Loss.

A similar method of transfer would be followed for all the accounts concerned. In the case of Inter-



est, we have not a resource, but a liability to be met, and, consequently, a red ink item should be written on the debit side indicating that this account is responsible for an additional sum not yet recorded through ordinary channels. (See page 167.) Then the debit side is \$17.43 in excess; and that balance is transferred by writing on the credit side "Profit and Loss, \$17.43" in red ink, and writing "Interest, L. 18, \$17.43" on the Profit and Loss account as a debit. What, in this case, must be brought down as a balance to February? Following the analogy of Real Estate, we should bring down the \$8.33. This red ink entry as a liability of \$8.33 represents interest for which January is held responsible, though this amount will not reach its regular entry on the books until some time in February or later. Let us examine the situation. We issued in January a note bearing interest for which payment will have to be made in February. When that payment is made in February, Interest will be debited, but as that interest belongs properly to January, February should not be held responsible for it. If, however, we bring down from the month of January, to the credit side of February, the \$8.33 interest liability incurred in January but not yet entered on the books, we shall be relieving February by that amount from the responsibility with which it will later be debited. Bringing down this \$8.33 from the red ink entry on the debit side of January to the credit side of February will forestall, so to speak, the undue debit to February, which is inevitable at the time the interest is paid. This will leave February with a net debit on

account of this payment for just its own share of the interest charged. This, of course, is what is desired.

The same thing is true with regard to Rent, except that here we have a gain, instead of a loss, to transfer to Profit and Loss. Rent has been credited in January with \$100, but we have seen that only \$10 of that really belongs to January; the rest was collected for February and later months. We accordingly write this liability of \$90 in red ink on the debit side, because January must be held responsible for collecting \$90 that did not belong to it. (See page 167.) The difference between these two sides of the account (\$100 originally credited and \$90 now debited) is to be transferred to Profit and Loss. We measure that difference by writing "Profit and Loss, \$10" in red ink on the debit side of Rent, and then we transfer it by writing "Rent, L. 22, \$10," on the credit side of Profit and Loss. The item of \$90 on the debit side of Rent must now be brought down to the February account, because February is entitled to credit for earning rent, even though the payment was made in January. February, in its turn, will pass on a certain unearned portion to March by the same process as that by which January passed on a portion to February.

Practically all the complications which can arise in this connection have now been illustrated in the discussion of this six-column statement. The manner of entry is indicated, for all the accounts concerned in our six-column statement, on pages 167-169. Of course the final balance of net profit or loss must be carried to the proprietor's account. His account is shown with the others. To save repetition of all the

## DRAWING CONCLUSIONS FROM BOOKS

167

## LAURENCE STERNE

[Page 1]

	Balance		55359 92	Jan. 31	Balance		34768 75
					Profit & Loss	L. 60	591 17
			55359 92				55359 92
				Feb. 1	Balance		55359 92

## CASH

[Page 5]

Jan. 31	Balance		2894 65				
---------	---------	--	---------	--	--	--	--

## BILLS RECEIVABLE

[Page 8]

Jan. 31	Balance		1600 00				
---------	---------	--	---------	--	--	--	--

## BILLS PAYABLE

[Page 12]

				Jan. 31	Balance		9000 00
--	--	--	--	---------	---------	--	---------

## REAL ESTATE

[Page 16]

Jan. 31	Balance		15300 00		Inventory		15275 00
					Profit & Loss	L. 60	25 00
			15300 00				15300 00
Feb. 1	Balance		15275 00				

## INTEREST

[Page 18]

Jan. 31	Balance		9 10		Profit & Loss	L. 60	17 43
	Accrued		8 33				
			17 43				17 43
				Feb. 1	Balance		8 33

## RENT

[Page 22]

	Unexpired liability	L. 60	90 00	Jan. 31	Balance		100 00
	Profit & Loss		10 00				
			100 00				100 00
				Feb. 1	Balance		90 00

## MERCHANDISE

[Page 25]

Jan. 31	Balance		22425 00		Inventory		23376 10
	Profit & Loss	L. 60	951 10				
			23376 10				23376 10
Feb. 1	Balance		23376 10				

## EXPENSE

[Page 30]

Jan. 31	Balance		25 00		Unconsumed		18 75
					Profit & Loss	L. 60	6 25
			25 00				25 00
Feb. 1	Balance		18 75				



## FURNITURE &amp; FIXTURES

[Page 35]

Jan. 31	Balance		500 00		<i>Inventory</i>		495 00
					<i>Profit &amp; Loss</i>	L. 60	5 00
			500 00				500 00
Feb. 1	Balance		495 00				

## POSTAGE

[Page 39]

Jan. 31	Balance		15 00		<i>Profit &amp; Loss</i>	L. 60	15 00
			15 00				15 00

## STATIONERY

[Page 41]

Jan. 31	Balance		125 00		<i>Inventory</i>		120 00
					<i>Profit &amp; Loss</i>	L. 60	5 00
			125 00				125 00
Feb. 1	Balance		120 00				

## FREIGHT

[Page 44]

Jan. 31	Balance		65 00		<i>Profit &amp; Loss</i>	L. 60	65 00
			65 00				65 00

## DELIVERY EQUIPMENT

[Page 48]

Jan. 31	Balance		500 00		<i>Inventory</i>		495 00
					<i>Profit &amp; Loss</i>	L. 60	5 00
			500 00				500 00
Feb. 1	Balance		495 00				

## ADVERTISING

[Page 50]

Jan. 31	Balance		30 00		<i>Profit &amp; Loss</i>	L. 60	30 00
			30 00				30 00

## WAGES

[Page 52]

Jan. 31	Balance		80 00		<i>Profit &amp; Loss</i>	L. 60	50 00
			80 00				80 00

## INSURANCE

[Page 56]

Jan. 31	Balance		100 00		<i>Unconsumed</i>		98 75
					<i>Profit &amp; Loss</i>	L. 60	1 25
			100 00				100 00
Feb. 1	Balance		98 75				

## FUEL

[Page 58]

Jan. 31	Balance		100 00		<i>Inventory</i>		85 00
					<i>Profit &amp; Loss</i>	L. 60	15 00
			100 00				100 00
Feb. 1	Balance		85 00				

PROFIT & LOSS										[Page 60]	
Jan. 31	Balance			100	00			Rent	L. 22	10	00
	R-al Estate	L. 16		25	00			Merchandise	L. 25	951	10
	Interest	L. 18		17	43						
	Expense	L. 30		6	25						
	F'ruit're&Fixt'res	L. 35		5	00						
	Postage	L. 39		15	00						
	Stationery	L. 41		5	00						
	Freight	L. 44		65	00						
	Delivery Equipm't	L. 48		5	00						
	Advertising	L. 50		30	00						
	Wages	L. 52		80	00						
	Insurance	L. 56		1	25						
	Fuel	L. 58		15	00						
	Laurence Sterne	L. 1		591	17						
				961	10					961	10

CHARLES DICKENS										[Page 80]	
						Jan. 31	Balance			1000	00

JONATHAN SWIFT										[Page 84]
Jan. 31	Balance			500	00					

RICHARD STEELE										[Page 85]
Jan. 31	Balance			500	00					

items of the ledger shown on pages 126-128, those items are consolidated for each account into one balance, and that balance is given below as if the ledger had been ruled up and the balances brought down before the trial balance was taken. It is the first balance of each account below. Then follow the closing entries.

One objection to the method of simple transfer just illustrated lies in the fact that nothing in the ledger indicates the processes by which the amounts to be transferred to Profit and Loss have been derived. Some careful calculation was necessary to

learn, for instance, what part of the total interest belongs to January and what part should be passed on to February. This method of transfer leaves no indication of the details of that computation. It is thought by many bookkeepers preferable, therefore, to make all transfers through the journal. In order to accomplish this they make journal entries which show exactly what account is to be debited and what credited, and just why these transfers are made. Below will be found the journal entries for the transfers just made by the other method. When these are posted the results are identical with those shown on pages 167-169. The only difference will be in the form of the items as they will appear upon the ledger. Since, for example, all items come from the journal, and are on the books of original entry, no red ink items appear except as mere balances.

[Entries for closing the books]

31

Profit and Loss	35.00
To Sundries	
Real Estate	25.00
Furniture and Fixtures	5.00
Delivery Equipment	5.00
Depreciation on these accounts for the month	

(These accounts are credited not because what they represent has done anything creditable, but because they are now relieved of their responsibility by the transfer of that responsibility to another account.)



## DRAWING CONCLUSIONS FROM BOOKS

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31

Profit & Loss	44.93
To Sundries	
Interest	17.43
Expense	6.25
Stationery	5.00
Insurance	1.25
Fuel	15.00

Proportion of charges expired or consumed during the month, as follows: Expense (telephone)  $\frac{1}{4}$ ; Stationery,  $\frac{1}{25}$ ; Insurance,  $\frac{1}{80}$ ; Fuel, 15%; Interest, as follows:

Accrued on B. P. No. 3,	9.33	
Unexpired on B. R. No. 1,	5.00	
Unexpired on B. P. No. 5,	1.50	15.83
		<hr/>
Less unexpired on B. P. No. 2,	7.50	8.33
Dr. balance on ledger		9.10
		<hr/>
Total		17.43

31

Profit & Loss	190.00
To Sundries	
Postage	15.00
Freight	65.00
Advertising	30.00
Wages	80.00
To close these accounts	

31

## Sundries

To Profit &amp; Loss

961.10

Merchandise

951.10

Rent

10.00

To transfer gains as follows:

Merchandise:

Inventory

23376.10

Net debits, per ledger

22425.00

Gain

951.10

Rent:

Collection

100.00

Unexpired

90.00

Income

10.00

31

Profit &amp; Loss

591.17

To Laurence Sterne

591.17

To transfer the balance of profit to  
his account

The process of figuring profit and closing the books, as worked out in detail, requires a considerable amount of labor. This would be done in most business houses only annually. Here we took a month's interval only because we chanced to have a month's material at hand. The only work done at monthly intervals is in most houses the posting of the purchase book, the sales book, and the cash book, and the taking of the trial balance.

When the books have been closed for an earning period, by closing out loss and gain accounts, a new situation is shown by the books. If we were at this point to take a new trial balance and make a new six-column statement, what should we find? In the first

place, there are no profit and loss balances, for all profit and loss have been carried to the proprietor's account — and that represents a liability. So we should have no use for the loss and gain columns in the six-column statement. The resource and liability columns, moreover, would be a mere duplication of the trial-balance columns; for every debit represents an asset, and every credit a liability. A six-column statement, therefore, would contain no more information than would a trial balance. Usually business men report their business operations, so far as they report them at all, only after the closing of the books; and so six-column statements are not published. The results of the six-column statement, however, are usually given in two independent statements. One of these gives the equivalent of the loss and gain columns, and is called the "income account," or "income sheet." We shall have occasion to examine the form later. The other is the "balance sheet," and gives a summary of the ledger as it stands after the closing of the books. In form it usually consists of two parallel lists, assets and liabilities, instead of one list in parallel columns like the trial balance; but in substance it is simply the trial balance in new form. A developed form of balance sheet will be discussed later. Below is the balance sheet, in simple form, for the ledger shown on pages 167-169. It will be noted that (except for the proprietor's account) it corresponds, item for item, with the resource and liability columns of the six-column statement on page 154. The exception in the case of the proprietor's account is due to the fact that the net profits, which



in the other statement stood in the last two columns, have now been transferred.

ASSETS		LIABILITIES	
Cash	2894 65	Laurence Sterne	35361 92
Bills Receivable	1600 00	Bills Payable	9000 00
Real Estate	15275 00	Interest	6 33
Merchandise	23376 10	Rent	90 00
Expense	18 75	Charles Dickens	1000 00
Furniture & Fixtures	495 00		
Stationery	120 00		
Delivery Equipment	495 00		
Insurance	98 75		
Fuel	85 00		
Jonathan Swift	500 00		
Richard Steele	500 00		
	<hr/>		<hr/>
	45458 25		45458 25

## CHAPTER VII

### SOME HIGHLY DEVELOPED TYPES OF BOOKKEEPING

It is worth while now to examine some more highly developed types of bookkeeping, for no one is competent to interpret books—as an auditor, for example, often has to do—unless he can read them even in extremely complicated form. Let us carry the principle of the special column further than heretofore.

We have heretofore considered the trial balance as an abstract of the ledger. When we realize that a large business may have transactions with a great many customers (some of the big department stores have accounts with many thousand customers), we see that a trial balance may be extremely voluminous and may involve so much labor that the figures are not available for several days after work is begun upon it. It is desirable to have on the balance sheet and on the trial balance one figure to represent all customers. This may be provided by a subordinate ledger and an account in the general ledger to represent that subordinate ledger. If we put all customers' accounts in a separate ledger, independent of the general ledger, we shall by so much reduce the bulk of our general ledger, and make it possible for one man to devote all his attention to those accounts

without interfering with other bookkeepers. Such a book would be called the "sales ledger," or "customers ledger." We may now have in our general ledger an account to represent the sales ledger as a whole, and, so far as our general ledger is concerned, consider all the customers as one customer. If, at the end of the month, when we credit Merchandise for the sales as shown by the sales book, we at the same time debit this account, which we may call "Customers," or "Accounts Receivable," in the general ledger, the debit to Customers in the general ledger will exactly equal the total debit posted to all individual customers in the subordinate sales ledger: and it will have been attained with only one posting. If, similarly, whenever in the cash book we credit a customer we extend the amount in a special column, and then not only post to his account in the subordinate sales ledger but at the end of the month post the total of that column into the general ledger as a credit to Customers, the balance of Customers will always represent the sums due us by customers, and will agree with the total amount shown in the subordinate sales ledger as due by all customers. Customers in the general ledger, in other words, shows us, without our looking at the subordinate ledger, the total balance of all customers' accounts: it is an account with customers as a *bunch*. If, however, we wish to know how much of that bunch total is owed by any individual, we must turn to the subordinate sales ledger, for there only are shown the details of the bunch. Such an account in the general ledger serves as a check or control on its corresponding subordinate ledger, and is for that reason usually called



a "controlling account." The business may be, indeed, of such magnitude that it is worth while to have a separate customers' ledger, or sales ledger, for each initial letter of customers' names; and in that case it might be worth while to keep in the general ledger a corresponding controlling account for each subordinate customers' ledger. Under that plan, whenever a debit is made to a customer whose name begins with A, a debit must also be provided for the account called "Customers A" in the general ledger; and whenever a credit is made to such a customer, a corresponding credit is provided for Customers A in the general ledger. Accounts in customers' ledgers do not appear on the trial balance, of course, for they are represented there by the corresponding controlling accounts; but at convenient times the total balance of all customers' ledgers should be compared with the controlling accounts, and any discrepancies explained and rectified.

Controlling accounts are of use in many other connections. Often a separate purchase ledger is desirable. The account to represent it in the general ledger is usually called "Accounts Payable," or "Creditors." In some lines of business, for instance, it is desirable to know daily the net balance of a large group of accounts which it would be almost impossible to balance and add daily. By keeping a controlling account in the general ledger to represent the total of all the detailed accounts, one can have that balance always available. In a savings bank, for illustration, it is desirable daily to know the sums due to depositors. To add the balances of all the depositors' accounts is a very heavy task. The de-

posits account, representing in the general ledger the total of all deposit ledger balances, shows the desired figure at all times.

The extra work in keeping controlling accounts is really insignificant. The only thing required is usually that a separate column shall be kept in the cash book and in the journal, and that extension shall be made to this column whenever a change occurs in any account included in the group which the controlling account represents. In the purchase book and the sales book a separate column is hardly necessary, for the total of all purchases and of all sales should usually go directly to Creditors and to Customers.

Let us now apply this principle of the special column for a controlling account to a case which will introduce another new element. We saw in Chapter V. that discounts may be taken out of notes and other face figures (such as bills to be paid) by entry on the contrary side of the cash book—just as if the full sum had been paid and then a rebate given. It is obvious that when discounts are frequent, as they are with firms offering and taking merchandise discounts for all payments made to them or by them, it is a good deal of labor to write the discount on the opposite side for each discount taken, for each discount must be fully explained. It would be a vast convenience if the discount could be attached directly to the payment, for then no new explanation would be necessary. This can be accomplished if the cash book has a special column for discounts. With such a column, one line and one writing of the facts will do for both amounts, for one explanation covers both the discount entered in one column and

the amount of the bill or the net amount entered in another column on the same line. The complication now lies in the fact that the discount, though written on one side of the cash book, really belongs on the other—for, as we have seen, since it is an amount subtracted from the face of the bill, and the face of the bill is entered as if received in full, we must offset that exaggeration by an item on the other side. We can do that easily at the balancing of the cash book for that period—the week or the month—by transferring the total of the special discount column to the other side of the cash book, just as we transferred the single item when we were making entries one by one. The custom when making these transfers is to place in the explanation column the word “contra,” to indicate that the amount is brought from the opposite page. This is illustrated in the two forms below, which have each a column also for the controlling account.

In this form it will be noted that a balance has been brought over from the preceding period and stands in a column by itself. The purpose of this column is to make it possible to get a total for all receipts during the present period without complication with the balance brought over from the preceding period. If this sum were not set aside, it might be included in the total to be debited to Cash; and this would be erroneous, for since all cash receipts of the previous period were debited during that period, any unexpended balance brought over from that period must not now be debited again. Several devices are possible to keep this balance out without the necessity of a special column. One, for



## RECEIPTS

	L. F.		Balance	Customers	Discount	Sundries
Feb. 1	✓	Balance from last month	7500 00			
5	31	Daniel Deronda		500 00	25 00	
10	5	Bills Receivable				700 00
18	37	Felix Holt		900 00	45 00	
26	35	Martin Chuzzlewit		1200 00	60 00	
28	✓	Merchandise				325 00
	✓	Cash sales			130 00	
		Discount contra				
	12	Customers		2600 00		2600 00
	18	Discount—contra				89 00
	2	Cash, Dr.	3714 00			3714 00
			11214 00			
Mar. 1	✓	Balance from last month	7159 00			

## DISBURSEMENTS

	L. F.		Creditors	Discount	Expense	Sundries
<b>Feb.</b>	2					
	8	Dombey & Son	2000 00	40 00		
	10	Henry Esmond	300 00	15 00	25 00	
	12	Expense				500 00
	17	Bills Payable				
	25	Adam Bede	700 00	14 00		
		Silas Lapham	400 00	20 00		
				89 00		
		Discount contra	3400 00		25 00	
	10	Creditors				3400 00
	15	Expense				25 00
	18	Discount—contra				
	2	Cash, Cr.				1300 00
	✓	Balance				4055 00
						7159 00
						11214 00

instance, is adding it at the foot of the page after the total cash receipts have been figured. This is unobjectionable except for the fact that until this balance has been inserted the books do not show what is the cash required to be on hand, and, therefore, they are false at all times except when the cash book is balanced. Sometimes the balance is brought over as the first entry in the Sundries column, but when the cash book is closed and posting is to be made to the Cash account, the amount posted is the total less the balance. The amount to be posted is indicated by what is called a "short extension"; that is, the amount is not written in the extension column. This, again, is unobjectionable except for the fact that it does not look right. To place in the money column a figure which is obviously a correct figure, because it is the amount of an addition of the figures above it, and then to post a smaller figure, looks decidedly suspicious.

The amount extended in the Customers' and Creditors' columns is the full face of each bill in spite of the fact that less than the full face was paid; for we must credit the customers and debit the creditors with the full face of each bill because in each case the full amount is entered on the ledger, and we must show that the account has been squared. The amount of discount is the subtraction from the full face. In closing the cash book, the total discount found by adding the Discount column is carried to the other side of the cash book and entered there in the Sundries column with an indication that it comes from the other side of the book. In the place where it originates, the word "Discount" is not written in



the journalization column, for no posting is made of this item from this place. The journalization column is left blank and only the explanation is used in connection with the amount. It will be noted here that \$130.00, which is the total of the Discount column on the receipts side of the cash book, is carried over to the foot of the disbursements side in the journalization and Sundries columns, and is not only posted from that source but is included in the credit to Cash. This is as it should be, for the amount of discount on the receipts side is the same as an equivalent of cash paid out, and, therefore, should be credited to Cash and debited to Discount, as it now is, on the disbursements side of the cash book. Similarly, the footing of the Discount column on the disbursements side of the book, which is \$89.00, is carried to the receipts side of the cash book and there entered in the sundries column. This is as it should be, for those discounts are equivalent to receipts because they were subtracted from bills which were paid, and therefore are to be debited to Cash and credited to Discount when the cash book is posted.

It would be possible, of course, instead of carrying the amount of discount appearing on each side of the book to the other side and posting it thence, to strike a balance between the two sides and post only the excess. This would produce the right effect on the cash account, but it would hardly give the fullest information with regard to discount. One indication of the goodness of our accounts receivable is the number of discounts which our customers take, for a firm on the verge of insolvency is not likely to be able to pay its bills promptly and receive the dis-

counts for prompt payment. If we were to combine our Discount debits with our Discount credits and post only balances, we should be offsetting all discounts which we ourselves received against discounts taken by our customers, and we should have no indication of the actual magnitude of either side of the account. This would mean that in comparing one year with another we should not know whether we ourselves had taken more or fewer discounts, and whether our customers were improving or not.

The double ruling under the total of the two Discount columns indicates, as double ruling always indicates, that the amount goes no farther in this connection. Here, for instance, the amount is not carried into the Sundries column, but stops short. This writing of it is to be neither added nor subtracted. When it is transferred, the new writing is not so double ruled, for it is to be employed in connection with other figures.

The footing of the column for Customers is posted to Customers in the general ledger, and will exactly equal, of course, the postings made to the subordinate, or customers' ledger, from the individual items. This amount is also extended into the Sundries column because it must be included in the Cash debits—for the excess over the amount actually received is offset by the discount transferred to the other side of the cash book.

This matter of the treatment of discounts is interesting because it shows how great a variety of forms and processes is open to any bookkeeper in the treatment of his items. It should be remembered, as has already been suggested, that but two

principles govern the arrangement of books. The first is the need that everything shall be very clearly stated and so arranged that it can be easily understood by any ordinary reader familiar with book-keeping. The second is that items shall be so arranged that posting can be conveniently made to the ledger, which is the ultimate destination of all figures of debit and credit. If it is found in any case that one arrangement is better adapted to the needs of this business or to the temperament of the book-keeper than another, that arrangement is to be preferred. In the form just illustrated it is seen that the full amount of the bill is written in the column for the controlling account, and that the discount is written in a column by itself; so that the actual amount of Cash is the difference between the two; but by extending the total amount of discount to the other page at the end of the week or the month the proper balance of Cash is preserved. If, however, we wish to see what cash was actually collected on any bill, we must perform a subtraction of the amount in the Discount column from the amount in the other column. It is obvious, however, that it would be possible so to arrange the books that the discount would not need to be carried to the other page. If, for instance, instead of entering opposite the name of the customer the full amount of the bill, we should enter the net amount paid by him after the discount was deducted, the total of the column would be the total cash received and would be the proper debit to Cash without regard to discount. It is equally obvious, however, that in posting to the customer's credit we should need to use not merely



the net amount of the bill—that is, the face less the discount,—but the full amount, or the sum of the two items written in the cash book—that is, the amount which he pays plus the discount allowed; for on the ledger he is debited with the full amount of the bill and our credit to him must be of sufficient amount to show that his bill has been paid. This introduces a slight complexity from the fact that in posting it is usually awkward to add two sums together in the head and accurately transfer that amount to the ledger. Some bookkeepers, however, like this method. It is shown, for the receipts side of the cash book, with the items used in the previous form.

This form has one new peculiarity. The amount of discount on the receipts side of the cash book must be posted as a debit, for it represents a deduction from our collections: that is, Discount is responsible for our failure to collect the face of the bills. Yet normally items on the debit side of the cash book are credits,—for since the debit side of the cash book shows items to be debited to Cash, it shows items to be credited to other accounts. This discount, however, has no real relation to Cash, and is on the cash book only for convenience. The credit to the customer is from two items—one of cash and one of discount. To put them together, with one explanation, saves writing. This discount column, then, is really only a journal entry inserted in the cash book for economy of labor. Care must be taken that it is plainly labeled to be debited, for otherwise its position here might lead to erroneous crediting of it.

Our treatment of totals here is necessarily different from that in the last form. Since discount is

## RECEIPTS

	L F.		Balance	Discount	Net Cash	Sundries
Feb. 1	V		7500 00			
5	31	Balance from last month				
10	5	Daniel Deronda		25 00	475 00	700 00
18	37	Bills Receivable		45 00	855 00	
26	35	Felix Holt		60 00	1140 00	
28	V	Martin Chuzzlewit				325 00
		Merchandise			2470 00	2470 00
		Net collections		130 00	130 00	
		Discount, Dr.				
	18	Customers				
	12	Cash, Dr.			2600 00	
	2		3495 00			
			10995 00			
Mar. 1	V	Balance from last month	7159 00			3495 00

directly subtracted, and not, as before, added to the other side of the cash book, our posting to Customers at the end of the period must be the sum of the net cash column and the Discount column—for the credit to each customer as the bills were paid was necessarily the sum of those two items for each bill; our total net cash must be included in the sundries column, to be debited to Cash; and our total discount may be debited directly from this place. We may provide for all this by a simple precaution in the order of taking totals. If we first take the total of net cash, we may extend the item into the Sundries column and thus provide for our Cash debit. Since we must include the Discount in the credit to customers, we next take the footing of the Discount column, which must be independently posted, and then extend it into the net cash column after the total of net cash has been determined. By adding the Discount to the net cash we get the full amount to be posted as a credit to Customers.

Another device to serve the same end is to enter the full amount of the bill in the Customers column, to enter the discount in the Discount column, and to carry the net amount to the Sundries column. Then all figures are provided: we post to the credit of the customer the amount in the total column, we credit to Customers the total of the total column, we include the net amount in the Cash receipts, and we post to Discount, as a debit, the total of the Discount column—which, as in the last form, has really nothing to do with Cash. This is complete and simple. It is shown below:



## RECEIPTS

	L. F.		Balance	Customers	Discount	Sundries
Feb. 1	✓	Balance from last month	750000			
5	31	Daniel Deronda		50000	2500	47500
10	5	Bills Receivable				70000
18	37	Felix Holt		90000	4500	85500
16	35	Martin Chuzzlewit		120000	6000	114000
28	✓	Merchandise				32500
	12	Customers		260000		
	18	Discount, Dr.			13000	
	2	Cash, Dr.	349500			
			1099500			
Mar. 1	✓	Balance from last month	716900			

In this form both the column for Customers and that for Discount are really for journal entries alone, and have no effect upon the amount of Cash. We have extended into the Sundries column the net cash in every case, and, therefore, that amount is automatically included in the receipts. The Customers column, containing the total of all bills, must be posted as a credit to Customers, and the total of Discount must be posted as a debit to Discount, for it is this discount and the cash which together make up the equivalent credit to Customers. The only peculiarity of the arrangement here is a provision that neither the amount of total for Customers nor that of Discount shall get into the Cash columns. This form has for its advantage over the others that it shows at all times the actual totals of all accounts concerned. It is impossible under the first form to find the cash receipts without first finding the Discount total, subtracting it from the Customers, and adding the remainder to the sundry cash receipts. It is impossible under the second form to learn the credit to Customers without adding the Discount to the net cash, and it is impossible to learn the total cash receipts without adding the net cash to the sundry cash. Here, however, the total of the Sundries column is always the total cash receipts, and the total of Customers is the total credit to Customers.

All this sounds very complicated, but in practice as soon as one has learned the lay of the land it works very simply.

We have just seen forms in which certain items that really belong on the journal are introduced into

the cash book because they may be inserted there in special columns with perfect clearness and without explanation. This suggests the fact that the cash book may be used commonly as a journal for any items if only the items are written on both sides. It is common in banking, for instance, to enter many things not cash at all on both sides, and to designate on the debit side of the cash book the name of the account to be credited and on the credit side of the book the name of the account to be debited. When these items are posted in the ordinary course, the correct results are attained; for the cash balance is not affected, and items on the debit side of the cash book are of course credited and those on the other side are debited. Let us now, in order to see this principle in its fullness, apply it to an extremely complicated form. One who thoroughly understands this, and can reproduce it and make desired changes in it without throwing it out of order, may be said to have mastered the principle of the special column.

Let us assume a commission business in which we receive commissions on sales which we make and pay commissions on sales made for us. We also buy certain merchandise directly for our own account and sell it both directly and on commission. Our profits are both commission and gain on merchandise, and our losses are both commission and losses on merchandise. We have then a variety of purchasing and selling relations. It is desired in such a business to keep constant run of the course of profits, and, therefore, to figure profit and loss on each shipment for sale on commission. In the illustration given below it will be seen that we save entries by treating



as cash things that are not cash, for by entering such items in connection with other items repetition of explanation is saved, and, though the amount of cash is overstated, the balance is correct. This form also, it will be noted, provides special columns for several controlling accounts. We have, then, a combination of practically all the complexities of bookkeeping form.

In this business, four separate subordinate ledgers are kept: a consignment ledger, with a separate account for each *lot* of goods received to be sold on consignment—that is to say, to be sold for others on a commission basis; a shipment ledger with an account for each *lot* of goods shipped to others from our own stock to be sold by them for us on commission; a customers ledger for customers; and a creditors ledger for creditors. It is necessary to keep in the general ledger an account to represent each of these subordinate ledgers. We must debit each consignment with expenses and commission and remittances to the shippers, and we must credit each with what we get for the goods. We must debit each shipment with what the goods cost us and expenses and commission allowed to our agents, and credit each with the net receipts from our agents. To close shipments accounts, moreover, we must debit them for gains—to make the debits equal the receipts,—and credit them for losses—to make the credits equal the debits. It is convenient, moreover, to close such shipment accounts as soon as possible, for the managers must govern their future shipments by the results of present and past shipments. If certain goods shipped to a certain town always result

in a loss, a manager ought to know it as soon as possible. It will save labor, moreover, if we can close each such shipment account at the time of receiving the final "account sales"—that is, the final report, from the agent, concerning that shipment; for then the loss or gain may be placed in a special column, without explanation, in connection with the entry of the amount received from the shipment.

In our cash book, therefore, we must provide a large number of special columns, for we have not only expenses and discounts and profit and loss, but several controlling accounts. On the receipts side, our controlling accounts will be Shipments—for amounts received from shipments sent away,—Consignments—for amounts received for goods sold for others,—and Customers. On the disbursements side our controlling accounts will be Shipments—for expenses, commission, etc.,—Consignments—for expenses and remittances sent to shippers,—and Creditors. For most of these controlling accounts, moreover, there will be more than one column, for in many cases the payments are likely to be less than the full amount of the bill. When payment is received for goods which have been shipped away to be sold on commission, the amount may be more or less than the sum debited to that shipment account, for commission is always to come out, loss may have been suffered, or profit may need to be added. Similarly, when payment is made to those for whom the business has sold goods on consignment, less is paid than the full price received on the goods, for commission is to be deducted. When, again, payment is made for merchandise purchased, discount is likely

to be deducted. Obviously, the commission, the discount, the loss, and the gain, are not properly cash items and do not belong upon the cash book; but if we can save labor by inserting in that book items that do not theoretically belong there it is worth while to do so. Many forms will serve this purpose. We will take, for practice, not the simplest but the most complicated. The reader wishing to improve his understanding of the principle of the special column is recommended to see clearly the full meaning of this and then to devise ways of simplifying it, as suggested later.

The first column on the debit side of the cash book indicates the total amount received on settlement with those who sell shipments for us. Obviously, if this amount is more for any shipment than that shipment cost us as shown by the shipment ledger, the difference is gain. It may be entered at once in the gain column. If the return is less than the cost, the loss may be entered. Our shipments account, not only in the general ledger but as a total of the items in the shipments ledger, must balance so far as each particular shipment is concerned; and to make it balance the gain or loss must be entered. Shipments, in other words, must be credited for more or less than the actual receipts by the amount of loss or gain; but gains may as well be added to the debits as subtracted from the credits; so losses are credited to Shipments and gains are debited.

These items of gain and loss are really not cash items at all, for their only connection with cash is registered in the amount entered in the Shipments column—which shows the amount of cash actually



## [CONSIGNMENT AND SHIPMENT CASH BOOK]

## RECEIPTS

		Ship- ments	Gain	Loss	Consign- ments	Custom- ers	Dis- count	Mdse.	Sun- dries
June 2	57	Shipments							
3	✓	Consignments							
8	✓	Thos. Jones	6 25		158 20				
7	✓	Shipments		5 10		250 00	5 00	156 10	
8	✓	Merchandise						156 10	
25	✓	Cash sales, S. B.							
44	✓	Total							156 10
30	✓	Discount contra							
62	✓	Customers							
33	✓	Consignments			158 20	250 00	5 00		250 00
68	✓	Gain	6 25	5 10					158 20
5	✓	Shipments							6 25
✓	✓	Discount							418 80
		Cash, Dr.							12 00
		Balance							1001 35
	✓								177 40

## DISBURSEMENTS

		Ship- ments	Consign- ments	Commis- sion	Creditors	Discount	Expense	Sundries
June 2	52	Shipments						
23	✓	Freight on 252						237 50
4	✓	Remittance 628	248 00	5 50	400 00	12 00	2 00	
5	✓	Joseph Vance						
25	✓	Expense						
30	✓	Cleaning	147 00	3 00				144 00
✓	✓	Remittance on 625						3 00
40	✓	Expense						
66	✓	Total				12 00	5 00	400 00
30	✓	Discount contra			400 00			
68	✓	Creditors						
34	✓	Commission, Cr.						
64	✓	Consignments	393 00	8 50				29 35
68	✓	Gain on Shipments						5 10
5	✓	Total						823 85
✓	✓	Loss						177 40
		Contra						1001 35
		Discount						
		Cash, Cr.						
		Balance						

received. Entries for them need simply to close each shipment account and transfer the gain or loss to a nominal account—just as in the last chapter we made journal entries to close various accounts. These entries could perfectly well go upon the journal, as has already been indicated; but for every entry of this sort an explanation would need to be made, and that would involve rewriting the history of the transaction. If the entries are made here, however, no additional explanation is necessary. Our present bookkeeping problem is then to provide means of debiting Shipments and crediting Gain, and of debiting Loss and crediting Shipments, for the amounts shown in the Gain and Loss columns. We have seen that any item may be placed on the cash book, even though no cash is involved, if only it is put on both sides. If, then, we carry the total of the Gain column, \$6.25, into our Sundries column, as if it were a cash receipt, and write the word “Gain” in the journalization column, this amount will be posted as a credit to Gain at the closing period. If, at the same time, we carry this \$6.25 also to the other side of the cash book and there call it “Shipments,” it will be posted in due course as a debit to Shipments (because items appearing on the credit side of the cash book are debited to the accounts named) and we shall have produced just the desired effect. The debit and the credit to Cash, though both excessive, offset each other. Similarly, if we extend the \$5.10, which is the total of the Loss column, into the Sundries column as a cash receipt, and call it “Shipments,” to Shipments it will be credited when the book is posted, as we have already seen that it ought to be. If, finally, we carry

this \$5.10 also to the disbursements side of the cash book and there call it "Loss," it will be posted as a debit to Loss, as we have already seen it ought to be. We have, then, by carrying both of these totals to both sides of the cash book, but in one case calling them "Shipments" and in the other calling them by their natural names, produced the same effect as if we had made a journal entry, or, rather, two journal entries, to express the situation. Since, in the form as shown, the \$6.25 gain on the credit side of the cash book should be posted as a debit to Shipments, it may be extended into the Shipments column and so be posted in total with the other Shipments items. Otherwise it must needs have a separate posting. Similarly, the loss appearing on the debit side is to be credited to Shipments, and so we save a posting by inserting it in the Shipments column so that it shall be included with the other credits to Shipments and be posted in a lump sum. The other half of each of these entries, however, is posted individually, and is individually extended into the Sundries column; for there are no other Gain items on the debit side of the cash book and no other Loss items on the credit side.

The next column, "Consignments," includes cash receipts from the sale (not charged to any customer) of goods sent to us on consignment, and, therefore, shows the amount which should be credited not only to Consignments but to the individual consignment accounts in the consignment ledger—for since these goods belong to shippers, we must be sure that in each case we credit the shipper with the receipts on his own goods. Since it shows an actual receipt of



cash, the amount is finally, of course, extended into the Sundries column. The next column, that for Customers, again represents a receipt; but since the amount to be credited to Customers is the full face of all bills paid, regardless of discount, any overstatement of Cash when the amount is extended into the Sundries column must be offset by the items in the next column which are carried to the opposite side of the cash book whenever the book is balanced. The Merchandise column contains cash receipts from the sales (not charged to any customer) of merchandise directly from our own stock without the intervention of any commission merchant, and is finally, of course, extended into the Sundries column.

When we come to close the cash book we must note that on the receipts side the total Discount column is not to be extended into the Sundries column nor to be posted from this source, but is to be carried to the other side of the book; that the amount of Loss is not to be extended into the Sundries column, for it is included among the Shipments; and that before ruling up the page we must bring over from the opposite side the amount of Discount found there as a deduction from the bills which we have paid.

On the disbursements side of the cash book we find a similar condition. Shipments is here debited for expenses incurred in sending goods away for sale on commission, and, as we have already seen, for the amount of gain as shown by the other side of the cash book. Consignments, on the other hand, represents the remittances or expenses incurred for goods which we have sold for others; and the amount indicated is here the full sum before commission has been

deducted, for this is the amount which must be debited to the individual consignments even though a smaller sum was sent in cash. The next column is simply for the commission deducted on these remittances. The next is for sums paid on bills which we owe for merchandise purchased on our own account; and the amount is the full face of such bills; but in case we pay less than the face, the difference is shown in the next column. The expense column is self-explanatory to one who understands the elements of special-column usage.

In closing the credit side of the cash book, we must realize that some items are under this plan to be extended into the Sundries column and some are not. For instance, we have in the case of Consignments debited Consignments with the full face of the bill, credited Commission with the deduction, and extended the net amount of Cash into the Sundries column because it represents the net outgo. It is obvious, then, that we must not again extend into the Sundries column the footing of the Consignments column, for to do so would duplicate the expenditures on this score. The Commission item, on the other hand, does not even indirectly represent cash. It might have been treated as a deduction from the remittance on Consignments, just as the discounts are treated as a deduction from the amount to be paid to creditors, but as a matter of fact we have not so treated it here, and, therefore, must not enter it in any cash column either on this side of the book or on the other. This Commission total is nothing but a journal item which must be posted as a credit to that account. The other half of this item—that is,

the debit to offset this credit—is included in the Consignments, which again, it will be noted, is not a cash item at all, but merely a journal item to be posted directly without reference to the cash, for the amount of net cash in connection with it is entered in the Sundries column.

The total of the Creditors column, however, is to be extended into the Sundries column, because we shall later offset the excess, here debited over the amount actually paid, by the transfer of the total of the Discount column to the other side of the cash book. The Shipments total, including the gain brought from the other side, is, of course, extended into the Sundries column, for it represents actual cash paid out except for the item of \$6.25, which is offset by a similar extension on the other side.

The net result of all this apparent complexity is that Cash is debited more than it is credited by just the amount of net receipts, and that each other account is debited or credited exactly as it should be. Any sceptic may easily prove the correctness of the cash: for he will find the actual receipts to be \$973.00; the actual disbursements to be \$795.60; and therefore the balance to be, as shown above, \$177.40.

The reader who is interested to get additional practice in the handling of these accounts is recommended to make several changes so as to make a uniform system out of the unsystematic form here shown. Here, for instance, discounts, both those subtracted from bills paid by customers and those subtracted from bills paid to creditors, are transferred to the other side of the cash book in order to correct the overstatement of cash; but commissions,



which bear the same relation to Consignments that Discount does to Creditors and Customers, are not here entered upon the other side of the cash book; they are deducted directly from the Consignments and the result is extended into the Sundries column. It is good practice to alter the form shown above so as to provide uniformity—to treat Commission, for instance, as a *contra* item to go upon the other side of the cash book and be posted thence—as is done with Discount. When this has been done, it would be well to reverse the process and treat Discount as Commission is here treated, so that discounts shall be deducted from the amount of the bills and only net cash shall reach the Sundries column. Another change that may be made here to advantage is to treat the Gain and Loss items independently of Cash, as if they were journal items, and credit the Gain and debit the Loss directly, as Commission is credited on the credit side of the cash book shown above. Care must be taken in that case not to neglect the Shipments portion of the entries. It is desirable always to provide that whatever plan is followed in one part of a book shall be followed in other parts, and therefore if net amounts are to be extended into the Sundries column in one connection, they should be in all connections; or if *contra* items are to be used in one connection, they should be in all; or if any items not strictly Cash are posted as if they were journal items independent of Cash, all such items shall be so treated. Much opportunity for practice in this line is afforded by the forms given above. Those forms are not recommended as they stand, but they are serviceable when unified and simplified.

It is worth while now to note certain bookkeeping devices which involve less a new principle than a modern development of an old principle. These are, primarily, to provide for small items or infrequent items which are not quite worth placing in a ledger account by themselves.

The most obvious of these is the account commonly called "Petty Cash." To insert in the ordinary cash book small items for telegrams, cleaning, extra newspapers, car fares, and things of that sort, would make considerable bother—especially if these items needed to be posted one by one to separate accounts. In highly developed lines of business, moreover, it is felt that for the purposes of auditing and making sure that all items are properly accounted for, it is well to make general payments wholly through the medium of checks drawn on banks. These small items, however, could hardly be provided for in this way. It is well, therefore, to keep in a "petty cash book," so called, all items not paid by check, and to limit such expenditure to things of slight consequence. The method of handling the petty cash may vary with circumstances, but the most satisfactory seems to be what is called the "impressed system." Operations are begun by drawing a check for a lump sum which is supposed to supply the cashier with all the ready money he will need for petty payments during a considerable period of time. This is debited on the general cash book to Petty Cash. As the cashier makes payments from this sum he keeps a record on a subordinate book, or petty cash book, which, with a number of special columns, may classify the items according

to the accounts to which they are ultimately to be charged. When the cashier finds his supply of ready cash low, he requests from his superior a check for another sum. The amount of such check is the total expenses shown by the petty cash book at that time; so that the check drawn exactly re-establishes the original petty cash balance. On the general cash book this second sum is debited not to Petty Cash, but to the accounts for which the original petty cash was spent. The result of this method is that small sums are kept in the petty cash book until such time as it is worth while to enter them in lump sums on the general cash book and to meet them out of the bank balance; and the amount standing on the general ledger charged to Petty Cash represents at all times the amount for which the petty cashier is responsible—either the actual cash in the petty cash drawer or that sum plus expenditures which have not yet been entered on the general cash book.

Another method of accomplishing the same result is to debit Petty Cash on the general cash book not only for the original check drawn for the petty cash drawer, but for all subsequent payments, and then at suitable intervals, by a journal entry, to debit the various accounts for which petty cash has been spent and to credit Petty Cash. Whenever, then, all the petty cash book items have been entered in the ledger, through the journal, the petty cash account will show as a balance the actual amount that should be on hand. The advantage of the former method is that the check drawn for the replenishment of petty cash always agrees in amount with the expenditure entered on the general cash book for such petty cash



payments. This, from the auditing point of view, is an advantage, for the amounts can be checked item by item.

Another device for handling petty items is concerned with the ledger. In certain lines of business having but few relations with customers, such as gas companies, electric light companies, telephone companies, etc., which have usually debits to their customers at regular intervals for certain common but not numerous items, the ledger may be arranged in horizontal form so that names appear at the left of the page and a series of separate columns across the page shows detailed charges for a month or a year or whatever period is convenient. By the provision of special columns for credits and for balances, the summary of every account can be seen at a glance, and the addition of any column will show for the page the total of each kind of charge—such as telephone rentals, telephone tolls, messenger service, etc. These totals may then be compared with the controlling account, which should represent all such customers, and with the nominal accounts which were credited when charges were made to customers. Such a book is usually called a “tabular ledger.”

Sometimes an account is kept in the general ledger with so-called “petty accounts.” Here, instead of separate accounts with each individual who has few and slight dealings with the business, the items for all these individuals may be carried to one general account representing the lump sum—just as Customers is kept for the total of all details shown in a customers ledger,—and yet no individual accounts need be kept anywhere, even in a subordinate

ledger, with these separate individuals. The plan of such Petty Accounts is usually that whenever a debit or a credit is made to it (with a designation of the individual concerned instead of the account which is the other half of the entry) the line on the opposite side is left vacant until that item is squared; so that although ordinarily on a ledger account the credit items would be placed one directly under another, regardless of any attempt to arrange them line by line opposite the debit items with which they correspond, on this Petty Accounts, if debits were usually made before credits, each credit would be placed opposite the corresponding debit, however many lines needed to be left blank on the credit side. This is illustrated by the form given below.

## PETTY ACCOUNTS

Jan. 15	John Nicholson	40	15	00	Jan. 31	Peter Ibbetson	98	20	00
Jan. 27	Peter Ibbetson	51	20	00					
Jan. 30	John Halifax	57	17	15	Feb. 10	George Tressady	102	11	54
Feb. 3	George Tressady	63	11	54					

We may now turn to something which is a sort of combination of Petty Accounts, as just indicated, a tabular ledger, and a controlling account. This is common in what is commonly called the "voucher system" of bookkeeping. Under this system, in its full form, a voucher is made out for every debt owed by the business, and when payment is made the prepared form is sent out with a request that it be signed and returned. The voucher itself is very little concerned with the books, however, and we may disregard its details. Indeed, the term "voucher" is used unfortunately in this system, for a voucher is really a proof that money has been paid; and the term is here used for bills to be paid as well as for

bills paid. We are concerned only with the method of handling a large number of liabilities without opening separate accounts in the ledger for each firm owed. The foundation of the bookkeeping under this system is a voucher register. This is, in nature, very much like the accounts payable book described in Chapter V. That book, however, is often only an auxiliary book, and so is not used either to originate postings or to receive postings. The voucher register contains usually in the first column the names of the firms or the corporations to whom payments must be made for debts incurred. The second column contains the address of each. The third gives the number of the voucher to be used at the time of payment. Next will be shown the date of the bill for which payment is to be made, the terms of such payment, and the time when the bill is due. Next are columns for the date of payment and the method. The next column shows the amount to be paid, and may well be headed "Vouchers Payable, Cr." Then may follow a number of columns for accounts which are to be ultimately debited for the debt incurred. If, for instance, the business is that of a department store, a column will be provided for each department, and when an advertising bill amounting to \$25 comes in, it will be entered at once and perhaps \$5 of that will be entered in a special column to be debited to the hosiery department, \$10 in another column for the shoe department, and \$10 in a third column for the lace department. Entries are made in this register as soon as bills are received and irrespective of the time when payment is to be made. No other credit than this is given on the books for



the firms to whom payment is to be made. The posting is made to one general account representing the whole mass of such debts. This is usually called "Vouchers Payable." Under this plan, then, the amount of all debts which have not separate accounts in the ledger is shown as the total of this Vouchers Payable column in the voucher register, and the amount due to any particular firm is shown by the details opposite the items bearing its name. At the end of each day, week, or month, the items may be got upon the general ledger by simply debiting the departmental accounts for the amount indicated for each in the separate columns in the register and crediting Vouchers Payable for the total. Whenever payments are made in settlement of any of these debts, of course, Vouchers Payable is debited, and Cash is credited, on the cash book. At the same time, in the vouchers payable register the columns for the date of payment and the method of payment are filled in. The balance of Vouchers Payable in the general ledger should always agree, of course, with the amount shown in the register and not indicated as paid; for as Vouchers Payable has been credited for all debts (by the voucher register) and has been debited for all payments (by the cash book), the balance is the amount still unpaid.

This handling of vouchers payable is serviceable, of course, mainly for dealings with firms who have rather infrequent relations with the business; for since all the items are handled individually assumption is always made that each bill will be paid by itself and will not be combined with others in a settlement of the lump. If there is outstanding more

than one debt with any firm at the same time, there is under this system no way of finding the total obligation to that firm except by going through the register and discovering that there are several items due to it. In other words, under this vouchers payable system there is no indexing, and the possibility of indexing, as we saw long ago, is one of the chief advantages of a ledger.

Often the managers of a business wish to withhold from their bookkeepers information about its inner relations. This can be accomplished by providing a separate private set of books—but without duplicating labor. Indeed, comparatively few kinds of transactions need to be known to the general bookkeepers. The numerous transactions, which require much labor for entry, are purchases, or manufacturing, sales, payments for purchases, collections from sales, and payments for expense. These, of course, the general bookkeepers will enter on the books. Investment of capital, borrowings, salaries of managers, division of profits among partners, payments of interest, taxes, and numerous other items, however, are usually so infrequent that entries for them may be made by a proprietor or confidential bookkeeper in the private cash book, private journal, and private ledger. Such an arrangement, moreover, does not preclude the possibility of a trial balance for the general ledger or for the private ledger. The device of a controlling account makes possible the complete separation of these two sets of books without robbing either set of any desirable figures.

The method may be summarized briefly. On the general books any items of assets received from

sources not shown on the general ledger are credited to an account called "Private Ledger." The details show on the private ledger—as details of Accounts Receivable show on the sales ledger. When cash is received, the general bookkeepers need not know whether it comes from investment of partners, from loans, or from conversion of other assets not known to them. Similarly, any outgo to destinations not indicated on the general ledger is debited to Private Ledger; and no one, unless he has access to the private ledger or to checks drawn, can know whether such outgo is for interest on loans, for partners' salaries, for payment on debts, for partners' withdrawal of capital, for payment of expenses, or for partners' withdrawal of profits. The private books, however, show all details. If a separate bank account is kept for the private transactions, moreover, private receipts and payments need not appear on the general books even for the controlling account—except when transfers are made from the private bank account to the general, or *vice versa*. The general books need not be complete. They must balance, of course, but all matters not of concern to the general bookkeepers are lumped in the private ledger account. A big real estate purchase, for example, would involve a debit to Real Estate and a credit to Cash in the private books; but since it does not affect anything that concerns the general books, it does not affect even the private ledger account in the general ledger.

The private books, on the other hand, may show the summary of the whole business, and therefore may include all transactions of the general books, or they may show only net results. In the latter case,



the private ledger may have an account entitled "General Ledger" to serve as an explanation when items are taken over from the general books into the private books. A trial balance is then possible for the private books without the details of the general books. If in making up the private trial balance, moreover, the bookkeeper substitutes the individual items on the general trial balance for his own General Ledger account, the trial balance of the private ledger will be complete for the business as a whole. If, on the other hand, it is desired to show on the private ledger itself a summary of the accounts on the general ledger (instead of an adjustment account as just described), the totals of general books may be posted directly to the private ledger as well as to the general ledger; so that the total of the purchase book, for illustration, will be posted as a debit to Purchases and a credit to Accounts Payable in both books. It is likely to be simpler, however, to carry to the private books only items which affect private accounts, making adjustment through the account called "General Ledger," as previously described, and to use the general-ledger trial balance for ascertaining details.

This device for the separation of private and general matters is capable of many variations; but it makes possible the employment of an army of bookkeepers without opening one's affairs to common knowledge. If inventories are kept private, even a knowledge of both purchases and sales fails to disclose gross profits, and net profits are still further removed from disclosure.

Another interesting use of a controlling account is in connection with business transacted in foreign cur-

rencies. If a pound sterling were always equivalent to the same sum in dollars and cents, it would matter little if all such foreign items were converted immediately into American figures; but rates of exchange are constantly changing, and the price actually paid for goods bought or sold abroad may not agree with the nominal equivalent of the bill. It is desirable, moreover, that the books of buyer and seller shall agree. It is customary when bills are expressed in foreign currency, therefore, to keep separate purchase or sales books and purchase or sales ledgers for foreign trade and keep them in the original currency. Since the amounts must be included in the general books, however, and in American currency, a controlling account is kept in the general ledger, and the amount is shown in both currencies—that is, the ruling provides two sets of money columns. When goods are bought, therefore, they are credited in the foreign purchase book and the foreign purchase ledger at the foreign price; when the total is carried to the controlling account the amount is converted into American currency at the nominal exchange rate (say \$4.86  $\frac{2}{3}$  for a pound sterling), and both amounts are posted to the general ledger. When payments are made, on the other hand, the controlling account is debited in American currency for the amount actually paid for the bill of exchange, the posting to the general ledger is not only for the amount actually paid in American currency, but for the amount of foreign currency which the bill actually covers, and the posting in the foreign purchase ledger is for the amount of foreign currency remitted. This device allows the books to show at

all times the balance due in foreign currency—not only on the subordinate ledger, but also on the general ledger,—the actual cost of remittances as compared with the nominal equivalent, and hence, of course, the profit or loss on exchange. As often as desired, the controlling account may be closed; then the difference between the nominal exchange figure for paid bills and the amount actually paid on them will be transferred to Profit and Loss.



## CHAPTER VIII

### THE PECULIARITIES OF CORPORATION ACCOUNTS

In the accounting of corporations certain features are unlike anything that is possible under a single proprietorship or a partnership. It is well at this point to study these with some care, for most business operations are nowadays carried on under corporate ownership.

Among accounts peculiar to corporations is Dividends. This is of use, of course, only where there is an issue of capital stock. The method of distributing profits in a corporation is to carry to Dividends the amount of profits which the directors have voted to distribute, and to enter it, of course, as a credit; for since the profits must stand on the credit side of the profit and loss account, and this amount is simply transferred to Dividends, it must appear on the same side. A simple journal entry debits Profit and Loss and credits Dividends—explaining, of course, why the entry is made. Dividends are, of course, a liability of the corporation until they are paid. When they are paid, Dividends is debited, Cash is credited, and so the dividend account is balanced.

The most important distinction between the accounts of single proprietorships and partnerships, on one hand, and corporations, on the other, lies in the capital stock account. This is always merely a controlling account and represents the lump sum of the

holdings of all stockholders. It is obviously unnecessary to enter on the general ledger the names and shares of individual stockholders, for each share of stock is represented by a certificate held by the owner and sufficiently indicating his title. One certificate may cover all the holdings of one person, and, therefore, may cover many shares; but it is possible for one person to have many certificates, each for a small lot of shares, so that he may sell a part of his holding without affecting the rest. In order to keep run of the holdings of stock, so that the corporation may know not only who is entitled to vote and to whom dividends should be paid, but also on whom calls may be issued for assessments in case any are necessary, a stock ledger or stockholders' ledger is kept to indicate exactly what is the holding of each person. This is purely a subordinate ledger. The total credit balance of the individual stockholders' accounts in the stock ledger must agree, of course, with the total credit of the capital stock account in the general ledger.

The process by which the credits to individual stockholders are established is in many cases interesting. If the total capital stock of a corporation were issued at once and the full amount of cash were received immediately in return, the bookkeeping would be simply a debit to Cash, and a credit to Capital Stock, for that amount. This, however, is not the common operation. Usually new stock may be paid for by installments; often the amount to be paid is either more or less than the par value; stock is often issued, moreover, in return for property, or in payment for a business bought outright by the corpo-

ration. We have sometimes to provide, then, for installment subscriptions, sometimes for premium or discount, and sometimes for the transfer of property and good will. All three of these complications, indeed, may arise in connection with one issue. They must, therefore, be examined in some detail.

Let us take first the issue of stock on installments in cases where the full face value is ultimately to be paid. In order to keep run of the amount paid on each installment, it is desirable in this sort of case to open in the general ledger an account with each of the installments. Let us suppose that 1,000 shares of stock are to be issued at \$100 a share, and that payment is to be made in four equal installments. The stock itself cannot be issued until all installments have been paid, and it is undesirable to enter on the books a credit to Capital Stock until the stock is actually issued; and yet we must make some credit to offset the debits for the installment subscriptions which, as promises to pay sums to the business, are assets similar in nature to bills receivable. Since the promise of the business to deliver stock, when all installments are paid, has created the possibility of these subscriptions, an account for stock subscribed is credited. The common entry when these subscriptions are received, then, is as follows:

Installment Subscription No. 1	25,000	
Installment Subscription No. 2	25,000	
Installment Subscription No. 3	25,000	
Installment Subscription No. 4	25,000	
To Stock Subscribed		100,000

An additional advantage in this Stock Subscribed is that since care must be taken that not more capital



stock is promised to be issued than is authorized by law, it is desirable to know what amount is already pledged. The difference between this and the sum authorized is available for further subscription or for issue by some other method. Only by establishing this account is it possible, without much hunting through the books, to show properly just what is the margin of unpledged stock. Some bookkeepers in such a case credit Capital Stock directly for the amount subscribed and then by a new entry debit Treasury Stock and credit Unsubscribed Stock for the balance unpledged. This is misleading, for, as will be shown later, the term "treasury stock" should be reserved for another sort of thing.

When one of these installments is paid the entry is simple:

Cash	25,000	
To Installment Subscription No. 1		25,000

When all these have been paid, so that Cash is debited for the full value of the stock and the installment accounts are closed, the stock itself must be issued. The entry for the issue will be as follows:

Stock Subscribed	100,000	
To Capital Stock		100,000

This entry balances Stock Subscribed, and the net result of all the entries is a debit to Cash and a credit to Capital Stock—which is, as we have seen, just what the entry would have been if all the capital stock had been issued in a lump sum for cash.

A complication arises in the handling of these installment subscriptions in case transfers are made before stock is fully paid. It may happen that a

subscriber desires to surrender his subscription to another, or to purchase another's right to stock. In that case he is not only selling a right, but is transferring to another an obligation; for he is not only selling the right to receive stock, but is transferring an obligation to pay the unpaid portion of the subscription. On the books of the corporation it is necessary to show, then, for each installment, just what portion has been paid, and, when any transfer is made, just how much obligation is taken by the purchaser of the right. This is done on an installment ledger. On the next page will be found a convenient form





It is necessary to note, before one can understand this installment ledger, that whenever a right is transferred a new certificate must be issued, and in this case the certificate is not for ownership of capital stock, but is simply a receipt for the payment of a certain proportion of the full subscription. If a man sells all his holdings, he will simply surrender the old certificate and request that a new one be issued to the new holder. If, however, he transfers only a portion of his holdings, the old certificate must be surrendered and two new ones issued in its place, one of which will then be transferred to the purchaser. The explanation on the installment ledger in connection with all such transfers should indicate, therefore, the surrender of the old certificate on the credit side and the issue of the two new ones on the debit side; then on the credit side will be indicated the surrender of one of the new certificates to the purchaser. On the credit side of this ledger, therefore, two sets of columns will be necessary; one of these will show the actual payment of installments, which, of course, will be each for a certain percentage—say twenty-five per cent.—of the total amount subscribed; and the other will show the surrender of shares partially paid. In the account shown above, the subscription is recorded as of February 15; on March 1 the first installment of 25% is paid; on March 15 a subscription of 50 shares, made by John Brown, on which the first installment has already been paid, is transferred to this account; on March 20, 25 shares are sold to David Grieve, by exchanging certificate No. 13 for two certificates and transferring one of them; on April 1, the second installment

is paid on all subscriptions now belonging to this account. At all times a balance of the total debits and credits, in dollars and cents, shown on any installment account will indicate the balance still unpaid, and a balance of the debit and credit shares will show the number of shares on which the person is still responsible to make payment. In the case above, for instance, a balance struck on April 2 will show liability for 200 shares and \$17,500, and credit for 75 shares and \$11,250, or a balance of 125 shares and \$6,250,—which is as it should be, for it is 50% on 125 shares.

The stock ledger is of similar form except that it needs no provision for the payment of installments. The balance of the stock ledger, however, will always be upon the credit side, for the stockholder has entrusted property to the business; whereas the balance of the installment ledger will always be on the debit side, for until the subscriber has made full payment, he is still responsible to the corporation on account of his promise.

If the stock is issued in payment for a business taken over by the corporation, the entries will not necessarily be very different, but they may require an allowance of the difference between the present worth of the old business, as shown by the books, and the amount of stock to be issued in payment for it. If, for instance, the corporation is to succeed to an old business, and will continue with the same books—as it naturally will do if it takes over all the property and assumes all the debts,—it may give in capital stock considerably more than the present worth of the old business as shown by the balance sheet; for

the old business may have such high earnings that it is worth a premium. It is not customary in the books of a proprietorship to write up the value of the assets merely because they happen to produce large earnings. If the net assets of such a business are \$100,000 and the net profits are \$15,000 a year, this business is regularly earning fifteen per cent., and, if taken over by a corporation, its proprietors would probably receive more than \$100,000 in capital stock; for a corporation would hardly desire, usually, to pay an annual dividend of fifteen per cent. Capital stock would be issued of such an amount as to produce a dividend of possibly seven and a half per cent. In that case, if it were assumed that under the corporation the business would earn as much as previously, the capitalization of the old business would be put at \$200,000, for seven and a half per cent. on \$200,000 would equal the \$15,000 expected as an earning. If this business were to be taken over by a corporation already engaged in operations, and it had been the previous experience of this corporation that it could pay seven and a half per cent. dividends, the owners of the business now taken over would hardly be willing to make a sale unless they could be guaranteed practically as high profits as they had been receiving in the past, and, therefore, on the assumption that the corporation would not pay more than seven and a half per cent. dividends, they could exact, from those who wished to buy them out, capital stock to the amount of \$200,000. It is actually true in this case that what is called the "good will" of the business is \$100,000; for since the present value of its tangible assets is only \$100,000, and yet its earnings



are equivalent to seven and a half per cent. on \$200,000, the extra \$100,000—due to the excess of profits over the normal rate on its investment—represents the value of its superior organization or its reputation, and any corporation taking over this enterprise can afford to pay \$100,000 for the right to use its name and privileges with customers who have been accustomed to buy of it, with dealers who have sold it goods and granted it credit, with the labor which it has employed, and with others who may help to utilize what it has built up in the past. We must, then, if we are going to transfer to the corporation the books of the firm, bring up the assets to \$200,000 in order that when the stock is issued the assets surrendered may exactly offset it. The method would be simply to debit Good Will \$100,000 and credit the proprietors; for this amount, though real, has not been previously entered to their credit; the valuations have not been based upon earning capacity, as it is now desired that they shall be, but upon cost. When we have made this entry, the proprietors stand credited with \$200,000, for their previous net credit was \$100,000. When stock is issued to them, on the transfer of their title to the business, another entry will debit the proprietors and credit Capital Stock for \$200,000. This will balance the proprietors' accounts and show that they have no further interest, as individuals, in the business. Their portion of the business is simply that of stockholders holding two thousand shares. Then entries may be made in the books exactly as if no transfer had been made to the corporation; for the assets including the good will

are now the assets of the corporation, and its liabilities are the liabilities of the corporation.

We come now to the situation when stock is sold for more or less than par. It is obvious that if shares of stock with a par value of \$100 are sold for \$125 in cash, this amount of cash realized is capital just as much as if the \$125 had been invested by a proprietor. In no sense can this extra \$25 be considered profit to the corporation, for the \$25 is just as much invested property, which the corporation may use in operations to get profits, as is the \$100 which is represented in the par value of the stock. A stockholder who has bought stock at par and sells it for \$25 premium is, of course, making that \$25 as profit, but with that the corporation has nothing to do; and we are concerned only with the premium which the corporation itself receives on stock issued by itself at more than par. In a single proprietorship or a partnership this premium, or its equivalent, would be carried to the credit of the partners' accounts, but since in a corporation we have no partners' accounts and can represent proprietors' shares only in the capital stock account at par, we must indicate the premium in this case as an additional sum belonging to stockholders but not represented on the face of the shares of capital stock issued. Surplus, as we have already seen, is nothing but an undivided portion of capital, and it is quite as much so when it consists of original investment paid in by stockholders as when it consists of accumulated profits from the operations of the business. National banks are by law required to establish a surplus of twenty per cent. of their capital stock, and the law prescribes that out of each

year's earnings a certain percentage shall be laid aside and placed in the surplus until this required twenty per cent. has been accumulated; but many banks begin business with a surplus already on hand through the medium of stock issued originally at a premium. When, therefore, stock is issued at a premium, we have not only to carry it to Surplus, but to do so under a name that will show that it must not be distributed as profits. A simple entry covers the situation, as follows:

Cash	125,000	
To Capital Stock		100,000
Capital Surplus		25,000

The situation would not be materially altered if the cash were collected in installments, and not in one lump sum as here indicated. If, for instance, the stock were to be paid for by five installments, the entry would read:

Installment Subscription No. 1	25,000	
Installment Subscription No. 2	25,000	
Installment Subscription No. 3	25,000	
Installment Subscription No. 4	25,000	
Installment Subscription No. 5	25,000	
To Stock Subscribed		100,000
Capital Surplus		25,000

When all such installments are paid, the entry will be, as before,

Stock Subscribed	100,000	
To Capital Stock		100,000

This closes out Stock Subscribed.

When stock is sold at a discount a somewhat different situation is to be faced. Under the law if stockholders have not paid the full value of their



stock they may be legally held liable for the debts of the corporation up to the amount of the unpaid portion of their subscriptions. If, therefore, capital stock is issued by the corporation at less than par, a liability still stands against each stockholder for the deficiency in his subscription, and if the corporation goes into insolvency he must pay. Usually stockholders do not desire such a liability to stand against them, and, consequently, they endeavor to make the stock fully paid. Unfortunately, many organizers of corporations attempt to do this by falsification upon the books, but sometimes the process is legitimate, as we shall see. The desire is to provide that the stock issued shall be represented upon the books either truly or fictitiously as fully paid, and yet to make it possible to sell stock at a discount. The method of doing this is commonly for the organizers of the company to issue stock to themselves at par in return for assets which they surrender to it, and then to donate some of that stock back to the corporation. On the books, therefore, the capital stock appears to have been once fully paid, because it was given in exchange for assets; and since it was donated to the corporation and has cost the corporation nothing, it may now, once fully paid up, be even given away by the corporation if the directors find good reason for so disposing of it, or—and this is the desired thing—it may be sold at a discount. In such a case it is obvious that if the corporation goes into insolvency and the creditors can show that the stock was originally issued on a fictitious valuation of property, the stockholders are still liable for the deficiency. The advantage of this method, from the point of view of the

dishonest organizer, is that the burden of proof is placed upon the creditor; for unless he can prove the overvaluation of assets, the books, showing that full value was given, defend the stockholder against assessment.

Under some circumstances there may be a donation of stock to the corporation when absolutely no taint of fraud attaches to it. If, for instance, the organizers are satisfied that the property which they hold is absolutely good and is sure to bring in large earnings, but know that they can hardly convince others of the value of this property, they realize that others will buy the stock in the corporation only at a discount. They may then issue stock at the equivalent of what they know to be the actual value of the property and donate some of it back to the corporation to enable the corporation to sell it at a discount; for, as we have already seen, if the stock has once been fully paid, it may be sold at any reasonable price without liability for assessment. (The national bank law, however, makes stockholders liable for an assessment equal to the par value of their stock, in case of insolvency, even when the full par value has once been paid.) It may at first seem as if it would be as well for the original subscribers in such a case to take their stock at a premium, say at 125—so that they would get eight shares for a thousand dollars—as to take it at par and then donate some of it—say two shares—back to the company; for then the company would have unsubscribed shares available for it to sell without increasing its capitalization. That would be true if stock could be sold at par; but the purpose of this public sale of stock is to raise working capital,

and the stock must be sold for what it will bring. Those who have faith in the business must induce others to subscribe, and it is a fact of human nature that men look for low prices—even when the value is exactly proportionate to the price. Even though it were true that the profits would be just in proportion to the capital, so that a man could as well afford to pay par (and get eight per cent. dividend on his stock) as to pay 75 (and get six per cent.), he would be more likely to buy at 75 than at par. For practical reasons, therefore, this method of making stock not only legally but actually fully paid is sometimes worth while. This is the only honest method of providing for the original sale of stock at a discount. Stock is sometimes sold by outsiders at a discount when it has not ever been actually sold at par; but in such cases it was originally issued in return for what were ostensibly adequate services rendered—such as fees for promotion, for underwriting or guaranteeing the sale of bonds or stock. Some of these transactions in the past have been open to grave suspicion as devices to evade the law, but unfortunately the burden of proof is laid on the objector. The tendency nowadays is to hold corporations more strictly responsible for their acts; for the community is coming to realize that as stockholders are relieved from some responsibilities which attach to partners, they must, in compensation, be held strictly responsible for fulfilling other duties falling on them.

The entries for stock sold at a discount are interesting. The proper bookkeeping term to indicate stock which has once been fully paid and, therefore, belongs to the corporation to treat as it pleases, is



“treasury stock.” This term, however, may include stock which the corporation has itself purchased in the market from its own issue, as well as stock donated to it. It seems preferable, therefore, in the case of a donation of stock, to use the title “Donated Stock,” for then there can be no question as to origin. Let us suppose that a corporation, with stock issued at \$100,000, in exchange for a business actually or fictitiously valued at \$100,000, receives back from its stockholders \$20,000 of that stock, to be sold for the benefit of the treasury—that is, as a means of raising so-called working capital, ready money to supply it with the means of hiring labor, buying materials, etc. The original entry would have read, possibly,

Real Estate	25,000	
Machinery	25,000	
Supplies	25,000	
Accounts Receivable	25,000	
To Capital Stock		100,000

It is obvious that, at the time of the donation, Donated Stock must be debited and something must be credited. As the donation is out of a clear sky, so to speak, an account on the other side must be established to indicate the fact that this surplus has arisen neither from the ordinary course of business nor from investment. Some bookkeepers would unquestioningly credit Surplus in the ordinary way; but it is desirable, if we are going to have our books represent the truth, as they always should do, to indicate that this surplus is of unusual origin. This can be done by the following entry:

Donated Stock	20,000	
To Donated Surplus		20,000

This donated stock may now be sold, as we have seen, at any figure which can be got for it. We will assume it in this case to sell at \$75 a share. Our entry will then be as follows:

Cash	15,000	
Donated Surplus	5,000	
To Donated Stock		20,000

It is obvious that, since we originally credited Donated Surplus for the full amount of stock donated, and then we failed to realize the par value when it was sold, we must debit that account for the difference. It is better to enter the donated stock and the donated surplus originally at the par value, even though we know that par value will not be received, than to enter it at the estimated selling price; for it is desirable that so long as we have any donated or treasury stock on hand it shall appear on the books at par value as an indication of the nominal amount in the possession of the corporation. It may be worth while in such a case to open an account with Stock Discount and debit that account instead of Donated Surplus for the amount of discount, for if we wish a record on our books of the actual amount of discounts suffered, we should keep such discounts in an account by themselves. When all the stock is issued, Stock Discount may be closed out into Donated Surplus, reducing it to the amount actually realized on the donations. Donated Surplus may then be transferred in turn to Capital Surplus. By this method all the steps in the stock issue are shown clearly, and the net result is summarized in one account.

One other complication of the situation arises when

stock has been subscribed for on the installment plan and some subscription is later defaulted. It is common to provide when installment subscriptions are received that if any sum subscribed for is unpaid after a certain date the subscriber shall forfeit not only his right to the stock but even to the return of the amount already paid on installments. In such a case, if any sums have been paid—and corporations usually require that a certain sum shall be paid at the time of subscription—this amount paid is a clear gain to the corporation. It is not a gain, however, in the sense of profits, for profits ought to be considered as only sums realized from the operation of the business. This gain is in a sense investment, but it represents investment for which the business is not responsible to the particular person who made the investment. Properly, such gain should be considered as surplus, similar to surplus created by a subscription to stock at more than par. It is obvious, too, that when any sums have been forfeited to the corporation on failure to meet subscriptions, these sums have actually been paid on account of capital stock to be issued, and, therefore, by so much make it possible for the corporation to sell stock at less than par. Although the law requires that all stock shall have been fully paid, it does not require that stock shall have been fully paid by the purchaser; since the only concern of the stockholder is that the corporation shall have received full payment from someone, any sums paid and forfeited by one person may be utilized to complete the payment for stock delivered to another. Forfeited payments, then, are equivalent to a payment for that many dollars’



worth of treasury stock which the corporation may dispose of at its own terms. A proper method of entry when it is found that any installments have been forfeited is to carry the amount of forfeiture to Treasury Stock and indicate that a certain number of shares are by that amount fully paid. Suppose, for instance, the corporation calls for installments at twenty-five per cent., and after two installments have been paid on a one-hundred share subscription finds the rest defaulted. The corporation has then collected on these shares \$5,000, and \$5,000 remains to be paid. The entry for the forfeiture would be as follows:

Treasury Stock	5,000	
Stock Subscribed	5,000	
To Installment Subscription No. 3		2,500
Installment Subscription No. 4		2,500
Capital Surplus		5,000

The Treasury Stock is debited \$5,000 because this amount is available for the corporation to put to its own uses as once fully paid, and the gain is credited as a surplus. Stock Subscribed is debited \$5,000 because, of the original subscription of \$10,000 once credited to Stock Subscribed, one half is now cancelled. The other half, now pledged to the treasury, must be left in Stock Subscribed to prevent an over-issue. The credits to the installments, of course, simply wipe out the installment accounts previously debited and now cancelled. It would be possible to debit Treasury Stock for the full \$10,000 if we could properly indicate that only one half of that stock had been paid, and that it must be sold for not less than \$50 a share. The difficulty would be in making

such an indication without too much complication, and in avoiding over-issue or under-issue. The simplest method is to treat the \$5,000 paid and forfeited as if it were full payment on one half the number of shares; then the corporation may do as it likes with that half and may call for subscriptions from outside for the other half. If, indeed, the corporation concludes to sell the one hundred forfeited shares for \$50 a share, it may still do so, for it may on its books enter —what is practically the fact—a subscription for fifty shares at par, with a bonus of the other fifty shares of treasury stock thrown in. This is equivalent to having a new subscriber take up the subscription of the old and pay the two remaining installments. In that case the entry will be as follows:

Capital Surplus	5,000	
Subscription Installment No. 3	2,500	
Subscription Installment No. 4	2,500	
To Stock Subscribed		5,000
Treasury Stock Subscribed		5,000

This entry, of course, reverses the last entry and puts everything back where it was before the forfeiture except for the fact that the Treasury Stock is now pledged (though it is still in the possession of the company); and, as a matter of fact, everything is as it was before the forfeiture except for the fact that the person who is to pay the installments is different. On the actual final total issue of stock, Stock Subscribed will be debited and Capital Stock will be credited, Treasury Stock Subscribed will be debited and Treasury Stock will be credited; the re-

sult will be a cancellation of all items but Cash and Capital Stock.

The only complication remaining is that arising when shares subscribed for by installments at a premium or at a discount are forfeited. Here the entry for forfeiture must take into account the fact that surplus or discount is affected at the time of the forfeiture, for surplus or discount was concerned in the original subscription.

Suppose the original subscription was for 100 shares at 120, to be payable in six installments. The original entry would have debited six installment accounts each for \$2,000, would have credited Stock Subscribed for \$10,000, and Capital Surplus, or Premium Surplus, for \$2,000. On the payment of two installments, Cash would have been debited for \$4,000, and two installment accounts would have been closed. On the present forfeiture of the remainder of the right, it will be necessary in the first place to debit Stock Subscribed \$6,000, because three \$2,000 installments of par value are no longer pledged, and to debit Capital Surplus \$2,000, because the amount of premium surplus previously promised is now known not to be collectible. The calculation of these amounts is a little complicated because our debit to Stock Subscribed, which must cancel the unpaid portion of the par value, is based not on the payment of two installments of the original six (leaving four to cancel), but on the payment of two out of five of the original six (leaving three to cancel); for one of the original six was not for par value, but for premium. If, on the other hand, we had made our original entry in such form that the premium as well as the



par value was divided into installments, we should have had a larger number of items on the books but an easier method of determining the exact nature of the various installments. In such a case, our original entry would have debited six subscription installment accounts each for \$1,666.66 $\frac{2}{3}$ , and six premium installment accounts each for \$333.33 $\frac{1}{3}$ . The credits would have been the same as before. Then when any installment of \$2,000 was paid we should have debited Cash and credited not only a subscription installment account but also a premium installment account. Whenever a forfeiture occurred, therefore, the books would have shown at once just how much had been collected on subscription installments, and the uncollected balance would need to be debited to Stock Subscribed and credited to the subscription installment accounts as no longer a pledge of stock to be issued. A similar debit to Capital Surplus and credit to premium installment accounts would have properly removed from the books the asset consisting of the promise to pay premium. In ultimate result, therefore, we should have got the same results as here by more entries; but the advantage would have been an easier determination of just how much debit to make to Stock Subscribed at the time of the forfeiture. Under either method the debit to Stock Subscribed will show how much stock previously pledged for a subscription is now free. Next a debit to Treasury Stock must show the amount of paid-up stock forfeited to the treasury, and the credit to Capital Surplus will show the gain to the corporation from the forfeiture. The full entry for the forfeiture, when

the installments were not originally divided between par and premium, will be as follows:

Treasury Stock	4,000	
Stock Subscribed	6,000	
Capital Surplus	2,000	
To Capital Surplus		4,000
Installment Subscription No. 3		2,000
Installment Subscription No. 4		2,000
Installment Subscription No. 5		2,000
Installment Subscription No. 6		2,000

This entry gives us both a debit and a credit to Capital Surplus. It would be possible to combine these and show a net credit of \$2,000; but in order here to show the origin of each they are given separately. The debit of \$2,000 is to offset and cancel expected gain from the promise of the stockholder to pay \$2,000 premium, for that promise is no longer binding; but the credit is due to the fact that he has already paid into the corporation \$4,000 in installments, which is now forfeited and is, consequently, to be carried to Capital Surplus. The net result is greater fortune to the corporation than if the stock had never been subscribed for—provided it can still find a customer for the stock at higher than 80; for though it has lost this subscriber's promise to pay \$20 premium, it has collected from him \$40 in cash without expense to itself.

If, on the other hand, this subscription, now defaulted after two payments, had been originally for treasury stock to be taken at 80 and paid for by four installments, we should have had a somewhat different appearance on the books. The original entry would have been a debit to four accounts of Treasury Stock Subscription Installments at \$2,000 each and

one debit to Discount on Stock (or to Capital Surplus), and a credit to Treasury Stock Subscribed of \$10,000. On the payment of two installments, two of these treasury stock subscriptions would have been credited and Cash would have been debited. On the forfeiture, it would be necessary to debit Treasury Stock Subscribed the full \$10,000, for none of such stock is now pledged, and the amount of original stock pledged was properly indicated originally when this stock just forfeited was first put into the treasury. At the same time, a credit must be given to the third and fourth treasury stock subscription installments, for they have been cancelled; a credit must be given to Discount on Stock (or Capital Surplus) to offset the debit made at the time this treasury stock was subscribed for at 80—for the item is at present cancelled and no one knows at what price this stock will ultimately be sold; finally, since from this transaction—that is, collecting two subscription installments—the company has gained \$4,000, Capital Surplus must be credited by this amount. These credits exactly offset the debit to Treasury Stock Subscribed. In this case no debit needs to be made to Treasury Stock, for since the treasury stock was never actually issued—because the installments were not paid—this account was never credited, but shows that the stock still remains in the possession of the treasury. The full entry follows:

Treasury Stock Subscribed	10,000	
To Treasury Stock Subscription No. 3		2,000
Treasury Stock Subscription No. 4		2,000
Discount on Stock		2,000
Capital Surplus		4,000



If no separate account has been opened for Discount on Stock, Capital Surplus will have a credit of \$6,000. This replaces the \$2,000 taken out of this account at the time the stock was thought to have been sold at a discount, and adds the \$4,000 gained on this forfeiture.

The attention given here to these last transactions is out of proportion to the importance of the subject in itself, but is justified by the opportunity offered for the illustration not only of bookkeeping principles, but of the accounting principle which wisely distinguishes between things which though a good deal alike in appearance and in name are far different in real meaning.



## CHAPTER IX

### PROPERTY OR EXPENSE?

We have been discussing the principles of bookkeeping and have found that if only debit and credit are properly distinguished, if items are carried to the proper accounts, and if, in spite of a multiplicity of special columns and special forms, the complications do not lead to the omission or duplication of items, our books are bound to be correct. We have been handling certain accounting problems on our way, but these have arisen only incidentally, as material for bookkeeping solutions. We may now turn to accounting pure and simple and assume that the bookkeeping will take care of itself; for, as has been indicated before, the task of the accountant is to learn what is the real nature of a transaction—either before an entry, so that the bookkeeper may know what facts to enter, or after all entries have been made, so that the manager may know the meaning of the facts that the books disclose. If, for instance, we make certain expenditure on our real estate, it may be a difficult task to determine whether the charge should be made to Real Estate or to Repairs. If the *real* value of our property has been increased, we ought to indicate on the books that there is a greater value remaining in the property and should therefore debit Real Estate. If the expenditure



does not increase the *real* value, it should be charged to Repairs—that is, to an account which is merely nominal and explains the loss of funds. This distinction between real and nominal accounts is fundamental and lies at the basis of most problems of accounting. It applies not only in making original charges for expenditure, but quite as much in determining, at the end of any earning period when we close our books, how much property originally charged shall be still considered a good asset. To make a careful study of the problems connected with it is therefore desirable before we consider complications of any other sort.

In the last paragraph emphasis was laid on the reality of the value. It may seem at first as if a value is a value, and that there can be no such thing as an unreal value. On general principles this is true, but it is necessary to realize that a thing which has value from one point of view has none from another, and that in accounting we must recognize the point of view before we determine what figures shall be used in connection with any property. If we are considering the value of property which we are on the point of buying, we are concerned only with what it would cost us to get that property somewhere else—that is, with the cost of duplication. So if we are to use cost of duplication as the basis for valuation on a balance sheet, in closing the books at the end of a year our sole concern is to learn what it would cost us to buy similar property on the market. If, on the other hand, we are not thinking of buying property, but only of the investment value to us of property which we already hold, we are concerned

solely with the income which it yields. A house which brings an income of \$1,000 a year over the taxes, insurance, and repairs, is worth, when interest is considered to be five per cent., \$20,000; for \$20,000 invested elsewhere will produce \$1,000 a year at that rate of interest. Whether it would cost \$20,000 to duplicate that house or not, the house is worth \$20,000 to the owner as long as it will yield him an income of \$1,000 a year. So on the basis of earning capacity we may have a very different valuation from that based on the cost of duplication. If, finally, I have built a house for my own dwelling at an original cost of \$20,000, and the house has been kept in excellent repair, it may still be worth, for my purposes, \$20,000 and only \$20,000; and this may be true even though I can now build another similar to it for less than \$20,000 and even though I should have to pay more than \$1,000 rent for another house which I might hire. In this case, it is not merely a dwelling that I am looking for, but this particular dwelling, with its associations connected with the past; the cost to me and the value to me are the same. If I abandon my original purpose, however, and decide that another house will do, I shall value it on a different basis. Let us examine this.

The situation may be expressed as follows: the house can now be duplicated for \$15,000, it can be rented for \$1,250, but I have paid \$20,000. If another house will serve me just as well, and can be built for \$15,000, my house is worth to me only \$15,000 and should appear on the balance sheet at that cost of duplication; if, again, I need only a house of that type and do not require that particular house, and it

would cost me \$1,250 to hire any other, this house is worth \$25,000, because possession of it saves \$1,250—that is, its earning capacity is five per cent. on \$25,000; but if only this house will serve my purpose, its value is the cost or sacrifice which enabled it to serve that purpose, namely, \$20,000. Every valuation must have regard to the intent for which the valuation is made. Each of these valuations, \$15,000, \$25,000, \$20,000, is correct on the basis used; but it is obvious that they are not equally satisfactory for general purposes. Yet in actual business one is likely to find all these methods defended by different persons as proper for use in valuations on balance sheets. One man argues for valuation at cost of duplication, another at capitalization of earning capacity, another at original cost or sacrifice.

It has been common in railroad accounts to base valuations on expected earning capacity of the property purchased. If, for example, new locomotives are bought at an expense of \$100,000, that \$100,000 will be charged to Equipment if the locomotives are additions to equipment and are expected to enable the road to earn more; if the new locomotives take the place of old ones worn out but are expected to yield to the road greater earnings than the old—or, what is the same thing, reduce operating expenses—a portion of their cost representing expected increased earnings may be charged to Equipment as measuring the increased earning capacity of the road as a whole, and the rest will be charged to Maintenance (the practical equivalent of Repairs); but if these new locomotives are expected simply to earn the same revenue as the old loco-



motives — however much better service they may render—the whole cost will be charged to Maintenance. For many roads this last statement is true even if the cost be much greater than the original cost of the locomotives that are replaced. This is the extreme form of basing valuation on earning capacity.

Many persons who complain of the high rates charged by railroads insist that as a general principle railroads should earn profits equivalent only to what is considered a fair rate upon the cost of duplicating the property. If a railroad cost, say, \$50,000,000 to build, but can be today duplicated for \$40,000,000, this principle would require that since a fair rate of interest upon that \$40,000,000 is all that the company ought to expect to receive, rates should be adjusted so as to yield that income. The advocates of this principle would on the balance sheet of the railroad show property equivalent only to the cost of duplication. Whether what they demand in the way of rates is fair or not is hardly an accounting question; but it is undoubted that if their principle is to be accepted—namely, that the real value of a property is the cost of duplication—all balance sheets should be adjusted to that basis, and the shrinkage due to a falling value of property should be deducted either from capital or from profits.

The real question for the accountant to determine is which one of these three methods gives the facts most desirable to show on the books. A little thought suggests that there is limited virtue for accounting purposes in representing on the balance sheet a valuation based on earning capacity. Every-

body knows that when interest is five per cent., for example, a property yielding five dollars a year is worth one hundred dollars. If we know the earning capacity of property, we do not need any bookkeeping, either simple or complex, to show us the value of that property. To cause a balance sheet to show a capitalization based on earning capacity, therefore, is simply to base the balance sheet on the income sheet—that is, to fix the total value of the property at one hundred times as much as the income divided by the number of per cent. indicating the current rate of interest ( $\text{income } \$1,000,000 \div 5$  [the current rate of interest]  $= \$200,000$ ; which multiplied by 100 [to find 100%]  $= \$20,000,000$ ). There is no great value in a balance sheet which tells little more (except some details) than the income sheet has already suggested. To cause the balance sheet to indicate the cost of duplication, on the other hand, is hardly more fruitful. The cost of duplicating any property is fluctuating continually, and whatever valuation might be put on the books on the first of January, 1911, would be to great extent out of date by the first of January, 1912; and though a possible profit indicated by a change in valuation might be very high for that year, in the subsequent year a change in valuations as indicated by the cost of duplication might entirely wipe out very large actual earnings. It is not true that any property which has shrunk in market value has necessarily involved a loss, for unless the property must be sold that nominal depreciation may not really touch it. If the property is just as good for serving the end which it was purchased to serve, it is every whit as good for account-

ing purposes. In other words, the cost of duplication has nothing whatever to do with the value of property for a going business, and, therefore, may perfectly well be disregarded in valuations on the books of any such business.

It follows, therefore, that the only logical basis for any valuation as shown by books of account is the cost of the property for the service which it is to perform. If property bought for \$50,000 can be duplicated for \$40,000, from one point of view it is true that the business has lost \$10,000; but that is true only if there have been no intermediate operations and we are sure that the proprietors in spite of waiting until the price had fallen could have earned as great profits as they have earned during the period between the original purchase and the time when the price has fallen to \$40,000. In other words, this notion of a loss of \$10,000 is based on a supposition which is usually far from the actual fact; and of course the profits of business should be indicated on the books not at all on the price of what might have been, but of what is known to be. Since, moreover, the figure of cost could never be recovered if once lost, it should not be confused by artificial valuations; but since valuations based on earning capacity and on cost of duplication can be found at any time, the books do not need to register them.

Hereafter, in deciding whether an expenditure shall be considered as for property or for expense, we shall in this book use for our basis neither earning capacity nor cost of duplication, but the actual legitimate cost or sacrifice in securing the property adequate for the desired service; for, as we have



seen, that is the only scientific method. We consider property to be whatever will render future economic service—even though that service be not productive of new revenue,—such as new locomotives that will merely run more reliably. One should realize, however, that by cost, or sacrifice, is meant only the cost or sacrifice not yet compensated for. If, for instance, machinery has been in part worn out by use, converting itself, so to speak, into manufactured goods, the original cost of the machinery has been in part compensated for in its product, and only the cost of the portion yet unconsumed should now be considered as an asset. Depreciation must always be considered before the figure of cost or sacrifice to stand on the books as an asset is determined.

An interesting problem arises if at a time of replacement of worn-out property the new property is acquired at a different price from the old. If the extra cost is accompanied by an extra efficiency, coupled with a corresponding increased earning capacity, unquestionably the new additional cost may be charged as a real asset, for from every point of view—that of valuation based on earning capacity, on cost of duplication, on original cost—the value of the property is greater. If, again, though the earning capacity is not greater, efficiency is increased, from the point of view of valuation based on cost the increased expenditure should be considered an asset—for though it will not earn more, it will actually perform additional service to the community.

When, on the contrary, such property is replaced at a lower cost than the original, a rather nice new

problem in accounting is raised. This difference between the two costs is a gain to the company, for the same efficiency and the same earning power are replaced at a lower cost. It would not be wise accounting, on the other hand, to consider this as profit for the year in which the replacement took place. What has really happened is that the operating facilities of the company have been kept intact by this replacement purchase, and that still a certain surplus of product (for the replacement should be provided for out of product, of course) proves to remain after the expenditure of the amount necessary to keep the capital in good working order. This surplus has had its origin in all the years in which the old capital was in use, even though it may chance that the exact replacement and therefore the gain on replacement occur in only one of the years. In result, then, this gain is nothing but capital now set free by the changes in conditions in the community. It has not been earned by the company through its operations; it has not been contributed by stockholders; it is benefit derived, probably, from the progress of the arts. The assets account should show what the equipment now on hand has cost—the sacrifice that the company has made for this property; and as the cost of the original property has been returned, through product, and is more than enough to replace the worn-out property (assuming, of course, that the business is successful), the original cost is no longer in the equipment and therefore the valuation should be reduced on the books.

Let us glance at the entries. As the old equipment (costing, we will say, \$10,000) wore out, it pro-

duced revenue, and cash (or its equivalent) became debited to the amount of \$10,000 above other expenses and normal profits. Since, when this equipment needed to be replaced, only \$8,000 was needed, \$2,000 remains in cash. Since the original \$10,000 valuation must be reduced to \$8,000, for only that value now remains in the form of equipment, this \$2,000 remaining in cash takes the place of the \$2,000 displaced from equipment. The entry at the time of replacement, then, is as follows:

Maintenance	8,000	
Profit and Loss	2,000	
To Cash		8,000
Equipment		2,000

This entry accomplishes three purposes. It reduces equipment to the cost of what is now on hand. It shows the actual expenditure for maintenance. It shows that the product of the business is responsible to do more than merely replace the efficiency of the equipment; for by debiting Profit and Loss \$2,000 it declares that no profit can be counted until \$2,000 in addition to maintenance has been deducted from product as an offset to property consumed and not replaced in value. The actual consumption of value has been \$10,000. Though the worn-out equipment has been replaced in efficiency, if the books fail to record that it has not been replaced also in value the gain from the lower price will be taken up as profits in the year of replacement, and, as we have seen, it is not a gain of that year. The gain from the lower price of the new equipment comes from the setting free of assets—which were previously \$10,000 in



equipment, but are now only \$8,000 in equipment with cash set free (from earnings) of \$2,000; and this \$2,000 can be either returned to stockholders or invested to earn more profits.

Before we attempt to work out new problems, let us summarize the situation. Let us assume that our ledger accounts are so named as to indicate sufficiently which of them are intended to represent property and which mere forces involving profit or loss. Our property accounts we will assume to be Real Estate, Plant and Machinery, Bills Receivable, etc., and our nominal accounts to be Expense, Rent, Taxes, Insurance, etc. We are likely at any time to have certain expenditures for repairs of machinery and plant. If an expenditure of this nature increases the value of the property over that appearing on the books, it should be debited to the real account, Plant and Machinery; if it merely replaces a value worn out, such as substituting a new part for one broken, the charge should be made not to Plant and Machinery, but to some nominal account which will indicate on the books at the end of the period a loss or cost of conducting the business. In every case of this sort, then, it is desirable to determine before the entry is made just what is the ultimate result of the expenditure. A charge to a real account implies that the property is expected to remain at the end of the earning period and to be counted as a good asset; a charge to a nominal account implies that nothing of this expenditure is to be counted as an asset at the end of the period. Yet in spite of the fact that it is not always easy to know whether an expenditure is of one sort or the other,

the line must be drawn as exactly as the nature of the case allows. If carelessness occurs, one may find that assets have disappeared without any record on the books. We shall find many cases in which the real decision will depend upon a consideration not at first obvious; but always the principle underlying can be found if one analyzes the case deeply enough. As we saw in Chapter VI., however, property accounts usually have some profit and loss relations—depreciation, for example,—and nominal accounts are likely to include accrued or prepaid items. Allowances are therefore inevitable. The necessary thing, then, is not so much that the line between property and expense be drawn exactly at the time an entry is made, as that it shall be drawn correctly at the time the books are closed; but a correct drawing of the line during the year makes easier a correct drawing of it at the close.

The distinction between property and expense, moreover, is not more important than the distinction between property and revenue; for to consider as clear profit a sum received from the sale of property is as great an error as to conceive to be property what was really only expense. One must distinguish as carefully between real and nominal accounts in making credits as in making debits.

Let us take an extreme case. Everyone knows that certain bonds sell at more than par value—that, for instance, a four per cent. bond of a good railroad which promises to pay \$1,000 twenty years from now is likely to sell at considerably more than \$1,000—perhaps for \$1,046.25. The reason for this premium is that investors believe so thoroughly in the security

of the investment that they consider that they are taking practically no risk and can afford to lend their money at a low rate of interest—so low, indeed, that the four per cent. paid by the bond is more than they insist upon getting. They bid against each other and offer for the bond, then, more than \$1,000, because the extra interest which they will be receiving as long as the bond runs is worth a premium. Though they pay \$1,046.25, however, they will receive when the bond matures only \$1,000, and out of the interest payment received every half year they must set aside a certain sum to make good that shrinkage of \$46.25 which they will suffer at the maturity of the bond; that is to say, they must realize that the reason they are paying cash premium outright when they buy the bond at \$1,046.25 is because they expect a semi-annual payment of more than the required rate of interest while the bond lasts, and this extra sum of semi-annual payment is not interest upon their investment but is simply part repayment of the \$46.25 premium which they paid. Suppose an estate is entirely invested in such bonds, and the trustee, who is charged by a will to administer the property so that the widow of the testator shall receive the income of the estate and the sons shall inherit the body or “corpus” of the estate at the death of the widow, does not realize that a part of the semi-annual interest payment includes a partial return of the \$46.25 premium on each bond. In this case he will turn over semi-annually to the widow \$20 for every installment of interest on each bond. When the bonds mature, if the widow is still living, but \$1,000 will remain for each bond—though



the estate originally included \$1,046.25 for each. Suppose, now, the trustee invests this \$1,000 returned principal in other bonds for which possibly he pays \$1,250 because the rate of interest offered is high. At the maturity of these last bonds, again, he collects only \$1,000 for each, and in the meantime has paid the widow the full amount of interest received on the bonds purchased at \$1,250. Once more he invests the principal in other bonds, perhaps at 133 $\frac{1}{3}$ . It is obvious that if this process continues very long, though on the face of it the trustee has apparently been paying to the widow only the income on the bonds—namely, the interest which the bonds pay—he has in reality been paying her a part of the principal, and on her death the amount of principal remaining in the fund will have shrunk considerably; for each time the par value of a bond is paid and he purchases new bonds at a premium he gets a smaller face value of bonds than he had before, so that whereas the original investment may have been \$104,625, it will now be only \$60,000. He fails to live up to the terms of the will because he does not recognize the difference between capital and revenue, between real accounts and nominal accounts. He should have known that though a part of every semi-annual interest payment was income or interest on the capital of the estate, another part was simply the repayment of principal, which ought to be kept intact and reinvested in order that the remainder-men or inheritors of the permanent estate shall not suffer loss through his neglect of accounting principles.

This sort of case is of frequent occurrence,

though the names by which the property is called may differ widely. If we have an impression, for instance, that we are keeping up our machinery by repairs and replacements and each year charge to Maintenance what seems to us a reasonable figure for such repairs and replacements, we may find suddenly that machinery standing on our books at a valuation of \$50,000 is worth only \$10,000. This error in judgment may have arisen not at all from a failure to spend enough in repairs and replacements, but from a neglect to realize that machinery may sometimes become worthless though it is quite as efficient in production as it was the day it was new. Many times in the last hundred years machinery as good as could be made has been kept equally good so far as its own production is concerned, and yet has become worthless because other machinery has been invented and put upon the market to do either the same work at a cost so low that the old machinery could not compete with it in price, or to do work so far superior that the old machinery could not compete with it in quality at the old price. Here, then, was no failure of calculation in keeping up the property; there was only failure to recognize the force of change in business operations. Allowance should always be made, in any business using machinery, for possible supplanting of property before it has lost its original efficiency—for what is commonly called “obsolescence,” or growing old. In some lines of business the average period of obsolescence is perhaps five years, even though the machinery itself might last for twenty years. Accounting is good only when it represents on the books all the facts;

and, therefore, the books should show that a part of each year's product should be devoted to establishing and keeping up a fund big enough to replace obsolete machinery as often as on the average it is likely to require such replacement. If this is not done, the books are representing profits as far greater than they really are.

Another illustration of the same thing applies in the use of what are commonly called "wasting assets." It may be known, for instance, that a certain quarry has in it marble enough to produce 50,000 tons a year for twenty years. We may pay \$20,000 for the right to get out marble from that quarry. If we figure profits by simply subtracting from sales the cost of getting out, dressing, and selling the marble, we are misrepresenting our profits; for at the expiration of the twenty years we shall have no asset left in the form of quarry right, and the \$20,000 will have disappeared. Proper accounting would indicate how much of each year's product should be set aside to keep intact the original investment. This need not necessarily be set aside in cash or invested, but may be used possibly in the development of the business in some other line, as, for instance, in the gradual purchase of other quarry rights to take the place of that exhausted. It is inevitable, however, that if the books are kept so as to neglect the gradual exhaustion of this quarry right and to maintain it continually at a valuation of \$20,000, on the exhaustion of the rock that \$20,000 asset will seem to have shrunk in a moment to nothing, and there will be a deficit instead of a profit as a result of the last



period of operation—unless, indeed, the profits are extraordinary and could easily swallow up such a shrinkage.

These cases are fairly simple when we once recognize the fact of shrinking assets. The only complication is in the figuring to determine just what allowance shall be made each year, and that computation is in most cases a mere matter of arithmetic applied to a judgment concerning the probable duration of the property. In the case of a bond the valuation is capable of exact computation as soon as the basis of interest is determined. A case involving the same principle where there may be some difference of opinion as to the method of calculation may be illustrated by agreements involving a maximum and a minimum sale. Suppose we are in the publishing business and have made plates for a book under an agreement with certain booksellers that we will supply them with a thousand copies a year for five years, and that they will take the five thousand copies at any time in five years provided not over three thousand copies shall be delivered in any one year. Under this agreement we have the option of supplying from one to three thousand copies in any one year, but we are not obliged to furnish more than one thousand, and we know that the maximum sale at least under this contract will be five thousand copies. Let it be assumed, also, that we have no faith to believe that more than five thousand copies will ever be sold. This is not, of course, a common agreement, but it illustrates a principle which is common in many relations. Let us suppose that we

supply the publishers two thousand copies in the first year, and that the plates for the book—which, of course, are useless for any other purpose than printing this particular book—have cost us \$500. What shall we consider a proper allowance to make for depreciation of those plates during this year? Is it one-fifth because one-fifth of the five years of the contract has expired, or is it two-fifths because two-fifths of the total expected sales have already been made? On one basis, of course, the plates have served one-fifth of their usefulness—if we assume that they will last for the printing of as many as five thousand copies, which is, of course, presumable. On the other basis, since the total amount of the contract is five thousand copies, and two thousand have been produced and sold, the plates have served two-fifths of their usefulness. Yet a decision of this matter involves a difference of \$100 profit for the year—that is, the difference between one-fifth, or \$100, and two-fifths, or \$200. In a case of this sort something else than a consideration of mere lapse of time is necessary to enable us to determine what proportion of the value should be written off in any period. In this case, it is true that the plates have not appreciably lost in productiveness, and can produce many more than the five thousand copies; but since their actual effectiveness is to be only five thousand copies, and two thousand have been produced, we are concerned not with how much potential value is left in them but with how much actual value has been exhausted. Here the exhaustion of value is two thousand, and we must reduce the original value of

the plates by two-fifths, or by \$200—though theoretically only one-fifth of the time of the contract has elapsed and though the plates might potentially serve for printing twenty thousand copies.

Still one sort of case remains—different from the others, however, only in the magnitude of the shrinkage. Let us suppose that it is learned that a railroad contemplates changing its traffic arrangements in such fashion that a certain town heretofore of slight consequence is to be made a great railroad center. We seek to make a profit out of the change and build a large hotel at heavy expense in order to cater to the traveling public which must use this junction. At about the time the hotel is completed it is found that on account of legal complications and competition with water transportation the railroad is obliged to abandon its plans of increasing traffic at this point, and our hotel is a white elephant. What shall we do with the value of the property as standing on our books? Though the hotel actually cost what we have charged to Real Estate, it is not from any point of view worth anything like that sum. Indeed, it is conceivable that it will be practically worthless if there is no demand for such a building in that locality. Even our principle of basing valuation on cost, as expounded in the first part of this chapter, would put this valuation down; for the cost there used was the cost of getting the desired efficiency, and here the desired efficiency is not produced and the expenditure was therefore wasted. It would not be necessary in such a case to make any entries on the books until it became time to close the

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accounts at the end of the year; for the debit to this account, originally made with the thought that the account represented an asset, would simply turn out to be a debit to an explanation account—merely explaining the loss of this value. In closing our books at the end of the year, therefore, we should carry this debit not into the resource column of a six-column statement (as described in Chapter VI.), which is equivalent to considering it a good asset, but into the loss column of such a statement, which is equivalent to considering it merely an explanation for the disappearance of property. It is noteworthy that the bookkeeping will be absolutely the same in both cases—that is, whether the property be conceived to remain or to be exhausted: only in the treatment of the account at the end of the year, in drawing conclusions from the books, shall we need to know whether the property really exists or has disappeared. Many accounts are of this sort. The commonest, of course, is that for bad debts. If we have sold goods to one of our regular customers, as long as the account remains on the books we are in the habit of counting it as an asset; but if the customer suddenly goes into bankruptcy, with the ability to pay nothing whatever, the account may still remain on our books, but we must recognize that it is nominal, explaining a loss instead of representing an asset.

In any case, when we are handling accounts it is desirable that we shall use the most conservative judgment as to valuations, for only so can we be sure that we are not considering as still on hand property which was long ago consumed. The basis of such a

valuation will be determined by the particular case in hand, and no general principle can be laid down except that the valuation should always be made as accurate as possible and in cases of genuine doubt the lowest probable. With regard to merchandise, for instance, the valuation should be put at cost price if we are judging the business with the expectation of selling the goods in the ordinary run of trade and no marked fall in value has occurred since they were purchased. If, on the other hand, we are considering a winding-up of affairs, so that the merchandise must be sold for a lump sum, either at private sale or by auction, we are sure that it will not bring anything like its proper price, and the valuation should be, therefore, a great deal less than cost.

Whenever an item is presumed to be an asset and, therefore, remaining on hand at the end of the earning period (usually a year), so that it is debited to a real account, it is commonly said to be "charged to capital"; when, on the other hand, it is presumed to be consumed during the year and is debited to a nominal account, it is commonly said to be "charged to revenue." In the terms of the six-column statement discussed in Chapter VI., charging to capital is debiting an item to an account so that the amount will appear among the resources in the six-column statement; and charging to revenue is debiting an amount so that it will appear among the losses on that statement. To "charge to revenue" is really an unfortunate expression, for revenues are always credits; the expression means that the item will be subtracted from earnings at the end of the year. A better expression is "charging *against* revenue."

As was stated in Chapter VI., most business houses, in drawing up their conclusions at the end of the year or in making reports to commercial agencies and to stockholders, give the facts as shown in a six-column statement, but in a somewhat different form. The six-column statement is usually supplanted by two statements, one of which, the balance sheet, contains on one side a list of all assets and on the other a list of all liabilities, and the other, the income sheet, contains a condensed list of the items in the last pair of columns on the six-column statement, viz., those for loss and gain. It will be seen that the balance sheet shows the condition of the business at the end of the year, after all allowances for depreciation and accrued items have been made. The income sheet, on the other hand, represents not at all the condition at the end of the year, but simply the summary of all transactions affecting profit and loss during the year. The balance sheet, in other words, represents the facts at a definite moment of time and can bear a definite date; but the income sheet represents the nominal accounts over a period of time, usually one year. As a good illustration of these two sheets extracts from the annual reports of the United States Steel Corporation are appended.



## PROPERTY OR EXPENSE

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## BALANCE SHEET

## ASSETS

Property (real estate, plant, etc.).....	\$1,500,092,134.63
Mining royalties, etc., paid in advance.....	6,763,191.22
Investments (outside real estate, etc.).....	2,353,109.56
Special funds .....	21,738,953.06
Current assets (inventories, cash claims, etc.).....	291,018,166.95
	<u>\$1,821,965,555.42</u>

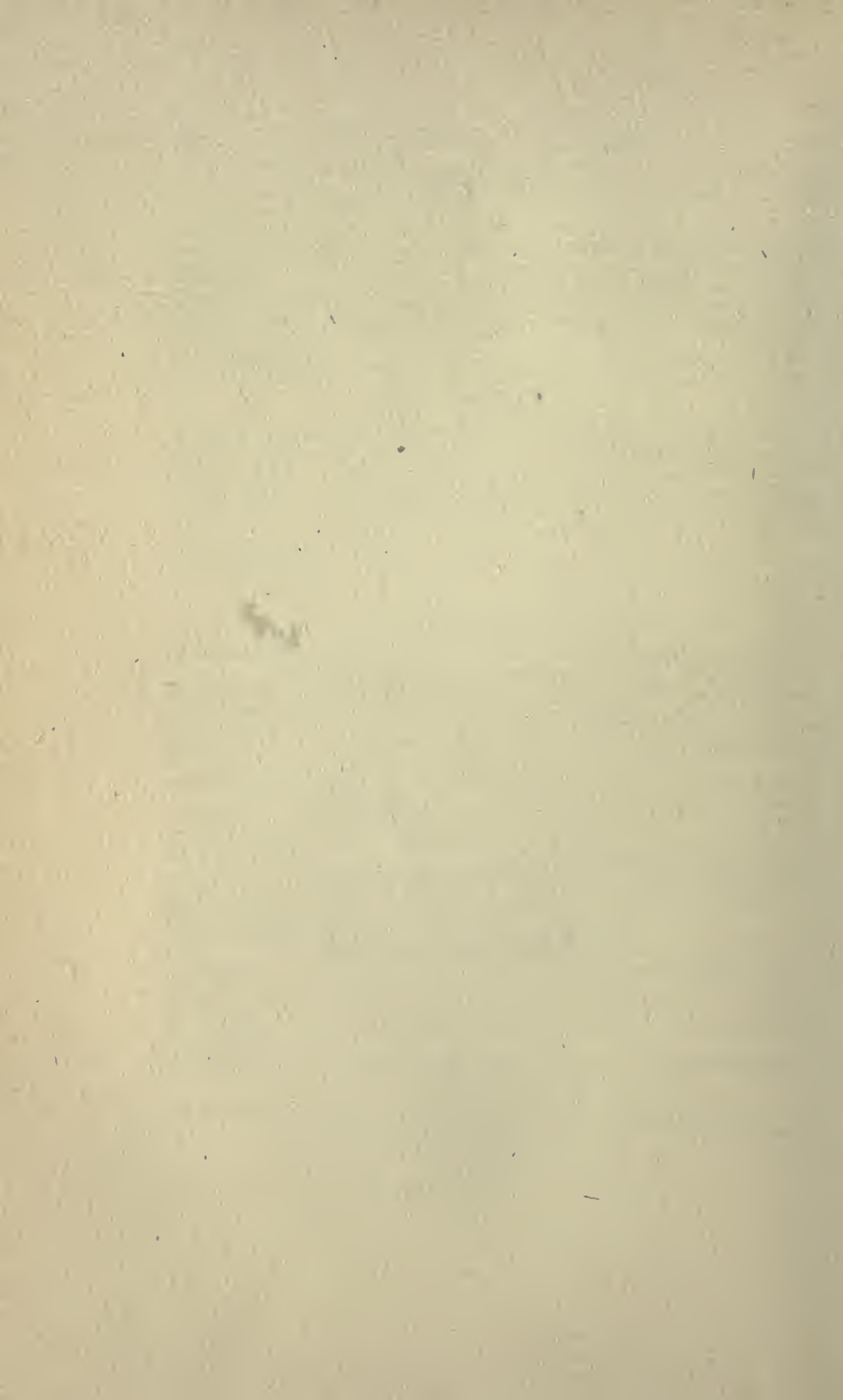
## LIABILITIES

Capital stock .....	\$ 869,202,602.50
Funded and mortgage debt.....	609,147,904.87
Current liabilities .....	61,144,725.55
Special funds .....	131,115,794.75
Surplus* .....	151,354,527.75
	<u>\$1,821,965,555.42</u>

## INCOME SHEET

Gross receipts from production.....	\$646,382,251.29
Producing costs, including maintenance... \$483,417,842.21	
Administrative and selling costs..... 19,082,226.90	502,500,069.11
Net receipts from operation.....	\$143,882,182.18
Other income .....	6,817,998.87
Gross income .....	\$150,700,181.05
Taxes .....	\$ 8,704,193.39
Interest .....	31,504,471.58
Net income from operations.....	\$110,491,516.08
Less profits between departments, not yet realized by the combined business .....	2,617,395.54
	<u>\$107,874,120.54</u>
Appropriations for sinking funds, extraordinary depreciation allowance, etc.....	29,348,870.58
Available for dividends.....	\$ 78,525,249.96
Dividends .....	45,551,777.00
Surplus for year.....	<u>\$ 32,973,472.96</u>

\* This includes the surplus for the year, brought from the income sheet below.



## CHAPTER X

### DEPRECIATION

We saw in the last chapter that it is necessary whenever one is drawing conclusions from books of account to make allowances for changes in value of many kinds of property. Indeed, there is practically nothing in business which remains for long quite the same in value. Let us examine several kinds of property subject to different laws of change.

The most common property on which depreciation must be figured is merchandise. If a stock of goods is turned over rapidly and is of a standard variety, very little allowance need be made. A coal dealer, for instance, is likely very seldom to make allowance for depreciation unless a fire gets into his bins. Even he, however, must see to it that no shortage results from careless weighing and from theft. Since coal is usually bought by the gross ton of 2,240 lbs., and is sold by net tons of 2,000 lbs., a shortage is little likely to occur. A wine dealer, on the other hand, is likely to suffer considerable loss from breakage, and therefore, though in general it is true that his stock increases in value with age, it may nevertheless be true that an amount of money invested in wine may suffer shrinkage in the course of time if there is careless handling. For ordinary stocks of goods, however, many elements of depreciation, but



few of appreciation, are likely to be at work. One is the common change of fashion, or custom, which renders goods once of high value practically worthless. The effect of this varies in force not only from business to business, but even from line to line in the same business. In a dry goods store, for instance, cotton sheeting is likely to be fairly steady from year to year not only in price, but also in demand. Its value decreases only slowly, moreover, with deterioration. Expensive figured silks, on the other hand, are likely to vary in value not only because of changing prices and of varying demand, but because of deterioration with age. In valuing stocks of goods, therefore, it is essential that one shall consider many factors. In other words, a stock cannot necessarily be valued at all on the basis of purchase price, nor can any normal percentage of depreciation be applied generally for any business selling many varieties. The only effectual valuation is to examine the goods in detail and see what is the probable depreciation on each sort. In the book business, again, there is still another element of depreciation in the privilege which most customers or intending customers or pretending customers have of examining books offered for sale. The loss from the difference in price between fresh and shop-worn goods is likely to be considerable. This applies in many other lines of business.

Real estate is subject to changes in value both upward and downward; but the upward movement is sure to be confined to the value of the land itself or to leases, whereas the buildings are sure of a downward tendency even when repairs are made with

frequency. Certain parts of buildings are so inaccessible that extensive structural repairs would require an expense even practically prohibitive. The changes in factory, store, and office conditions, moreover, require different construction as the years go on and make it often cheaper to demolish and rebuild than to repair or alter. The rates of depreciation on buildings are various, for the use to which a building is put has a great influence upon its durability. A stone warehouse or boiler house is likely to be little affected by lapse of time. Wooden buildings subject to heavy jars or the action of steam, smoke, acid, vapors, etc., are likely to need replacement often. It is impossible, therefore, to give any hard and fast figures, but in the main it may be said that building accounts should be treated as shrinking in value by a certain percentage each year—that percentage varying from perhaps two to twenty.

Machinery, as already suggested, is subject to shrinkage in value not merely because of actual wear, but because it is likely to be displaced at any time by inventions rendering it out of date, or by changes in fashion destroying the demand for its product. Machinery differs from buildings, however, in that to a certain extent it may be kept to the original value through the medium of repairs and replacements. It can usually be taken apart and set up with a new gear, a new shaft, a new belt, a new feed, and what not. Indeed, it may be said that very few machines are really ever worn out, for unless they are of extremely simple type, constant repairs and replacement of parts will continue their ef-

ficiency. It is mainly because better machines have come upon the market that old machines are discarded. In allowing for depreciation, therefore, the task is to consider the number of years which the machine will remain useful, and to figure its cost for those years as not only the full initial cost, but, in addition, all expense for repairs and replacements. This expense must be distributed evenly over those years, for clearly to charge against the profits of any one year more than its fair share of the total cost of the machine is to misrepresent the real profits of that period. The main question arising in the treatment of depreciation of machinery is the method of calculation of the total cost to be distributed. This is worthy of careful examination.

Repairs and replacements, of course, which not only should be distributed over a series of years but will actually be made and paid for in those years, should be charged to an account by themselves. This is usually called "Maintenance." One method of treating depreciation is particularly well illustrated by the former common practice of railroads. Among the total operating expenses of railroads Maintenance of Equipment—that is, repairs, renewals and replacements of locomotives, cars, snow-plows, etc.—constitutes about fifteen per cent. Since the total expense of this sort is so heavy it is probable on a railroad that if one engine requires more repairs this year than usual, some other engine will require fewer; the number of engines is so large, and the number of types of engines is so great, that a fair average is likely to be maintained one year as compared with another. It has not been customary,



therefore, for railroads to make any theoretical allowance for depreciation—or, at least, it was not customary until, a few years ago, the Interstate Commerce Commission pressed such an allowance upon the American roads. The same sort of thing is true of maintenance of way and structures; for though the cost may be slightly heavier in one year than in another, it is likely to run along fairly close to the average. This method of treating depreciation, it should be noted, is sometimes the only method necessary. If the property is comprised of many parts, having different lifetimes, and therefore depreciating at different rates, it may chance that each year a good many parts will need to be replaced—so many, in fact, that the general efficiency will never decline and the cost of maintenance may never vary much from the average; the depreciation on old machines not replaced will be offset each year by the excess value of new machines over those which they replace, and the total value will be unimpaired. To maintain property does not mean, of course, that each *bit* of property is maintained, but only that the property *as a whole* is maintained. To improve twenty locomotives as much as twenty other locomotives decline in value is to maintain the equipment. When this sort of thing is carried out, no further provision for depreciation is necessary, and maintenance is automatic. It is necessary to realize, however, that in very few enterprises is it practicable each year to keep the property exactly at its original value by repairs and replacements and at a steady cost. The Interstate Commerce Commission refuses to assume that the railroads can or will

do so. We have, then, to provide for the actual depreciation which repairs and replacements cannot or do not prevent.

Let us turn now to the provision for the estimated unavoidable depreciation. Each of several methods of making the necessary calculations has its defendants. The most obvious of these is a simple division of the total original cost of the machine by the number of years which it is expected to remain in use. Two objections to this are clear. In the first place, if we write off each year, beginning with the first year, a sum which is one year's proportion of the total cost, we are neglecting the fact that money is always capable of earning interest, and that, therefore, a sum laid aside each year in a special fund for ultimate replacement will at the end of the time have increased in value through interest to a larger sum than is needed. In other words, each year's share except the last may as well be less than the exact arithmetical proportion, for the accumulation of interest will make up the deficiency. The second objection to this method is that the machine does not depreciate at anything like a steady arithmetical rate. This method, then, is purely artificial, and although it produces the desired sum, it may yet result in a considerable unfairness as between different years of the life of the machine,—especially since, as we shall see later in connection with other plans, it neglects several important elements of what is going on.

A second method is to use what is called a sinking-fund device,—that is, to find by calculation a sum of money which, actually set aside and put at

interest, will produce the desired sum at the end of the time. This may be illustrated as follows: one dollar set aside now will, at 4 per cent. interest, amount to \$1.04 at the end of the year; a dollar then set aside and added to the first will, at the end of the next year, amount to another \$1.04, and the first dollar will in the meantime have become in value something more than \$1.08; a third dollar set aside at that time will amount to \$1.04 in the next year, the second dollar will at the same time have amounted to something more than \$1.08, the first to something more than \$1.12; and so on. Adding each year a dollar and the accumulated interest of preceding dollars, we get a considerably larger sum at the end of the period than the amount of money invested. If we now divide the amount of money which we wish to raise at the end of the period by the total accumulation of single dollars just found, we shall know what number of dollars set aside each year will accumulate in the given number of years to the desired sum. This annual sum set aside is called a sinking fund, and, as we have seen, will be steady. The annual payment throughout the period will be less than the total amount to be raised divided by the number of years, as found by the first method, for the accumulations of interest will make up the deficiency.

A third method is to recognize the fact that the machine depreciates much less in the early years than in the later, and, therefore, to distribute the total amount of depreciation among the various years in an increasing proportion, such, for instance, as 5 per cent. in the first year, 10 in the second, 15 in



the third, 20 in the fourth, and so on by such an arrangement that the total 100 per cent. will have been written off in the expected lifetime of the machine. To this method much objection can be found. It is true, as the theory assumes, that the machine will depreciate but little in the first years, and rapidly in the last. As we have seen in another connection, however, the real accounting test is not so much the change in the value remaining as it is in the ability of each year to endure a share of the total expense; that is to say, we are not so much concerned with the actual depreciation for that year, which is at best but a matter of guess and purely arbitrary, as with the amount of depreciation which that year can endure to have charged against its products without throwing it out of proper relation to other years. It is obvious, in the first place, that a new machine requires fewer repairs and replacements than an old one, and that, therefore, the direct charges to Maintenance will be less in those years. In the second place, such a machine, since it is of the newest type, is competing probably only with its equals or with machines of an older type, and, therefore, places its owners either on an equality or at an advantage as compared with other shops using older types of machines. On a double ground, therefore, the business can afford to set aside a considerable sum out of the product of the early years as a fund for ultimate retirement and replacement of the machine,—because repairs are less, and because it is competing at an advantage with other machines. Yet this third method actually charges less against the product in the early years

than in the later, and in the later years, when the machine requires many repairs and at the same time must compete against new machines of a superior type, it charges as arbitrary depreciation a heavier sum than in the early years. The business is far less able to take out of product in the old age of a machine a large sum for repairs and for a replacement fund than in the early years, and so this third method is really unscientific and violates in its assumptions a most obvious fact.

The fourth method is based almost entirely on the considerations suggested in the last paragraph, that is, it attempts to use the facts which the third method disregards. Under this plan the amount of depreciation written off in the early years is very much heavier than in the later because the business can stand such heavy depreciation in the early years and cannot in the later. One mathematical method of making the calculation of annual depreciation is to find a fixed percentage which shall be applied each year; but this percentage is to be applied not to the original cost of the machine, but to that original cost less the previous depreciation. Suppose, for instance, a machine expected to last five years cost \$200 and will be worth \$20 for junk when sold. By the application of a mathematical formula it can be learned that the percentage to be applied is about 37. This will give us, applied to the \$200 in the first year, a depreciation of about \$74 and a remaining valuation of \$126.19; in the next year, a depreciation of about \$47 (that is, 37% on the \$126.19), and a valuation of \$79.62; in the next year, 37% upon that last valuation will give about \$29 additional

depreciation, and leave a balance of \$50.24; 37% applied to that gives us a depreciation of about \$19, and a valuation of \$31.70; and a final 37% reduction gives a final remaining scrap value of \$20. This is distributing the charge for depreciation over the various years on the basis of what each is best able to stand, and the amount subtracted from the product should leave a fair sum of profit. The method of calculation for this percentage is rather complicated, and in many cases is hardly worth while, but a rough substitute for it is found readily by simple arithmetic. If we add the numbers representing all the years which the machine is expected to last, in this case 5, 4, 3, 2 and 1, the sum represents the denominator of a convenient fraction; if we each year write off from the original value of the machine a share (of the total depreciation) represented by a fraction having for its numerator the number of years remaining and for its denominator this total number of years just indicated, we shall attain practically the desired result. To illustrate, in this case, as we have just seen, the sum of all the years, 5, 4, 3, 2 and 1, gives us a denominator of 15, and if we in the first year write off  $5/15$ , in the second  $4/15$ , in the third  $3/15$ , in the fourth  $2/15$ , and in the last  $1/15$ , we shall have written off in the end the total  $15/15$ ; and we shall have made each year bear a proportion considerably smaller than that of the year before. The figures of depreciation will be \$60, \$48, \$36, \$24 and \$12. For the purpose of making this method clear let us take another illustration. Suppose the machine will be obsolete in ten years. We add together 10, 9, 8, 7, 6, 5, 4, 3, 2 and 1. This gives us 55



for a denominator, and if we assume that the machine cost \$600 and will be worth at the end of the ten years \$50 as scrap, we get \$10 for each 55th of the total. In the first year, since we are to write off 10/55, we reduce the valuation by \$100. The next year we are to write off 9/55, and reduce the valuation further by \$90, and so on in a decreasing figure each year until in the next to the last year we write off \$20, and in the last year \$10. Then the whole \$550 has been subtracted from the original \$600 and we have our scrap value of \$50 remaining.

It is obvious that at best, under any conceivable conditions, our writing off of depreciation is to a certain extent arbitrary, for it must always be based on a mere judgment as to how long the machine will be useful. The machine may actually, so far as its physical substance is concerned, last far longer than we expect, or it may wear out much sooner; and new machines may not come upon the market for fifteen years, though we base our calculations on ten,—or they may appear in three years. Since, then, our calculation is so largely guess work, it is absurd to carry the figuring of depreciation to a very great refinement. Theoretically, if we decide that we should write off each year 37% of the preceding valuation, we ought to allow for the fact that the 37% if set aside will accumulate interest, and that, therefore, a smaller sum than 37% will suffice for the purpose. Such a provision, however, would be finical, for since the whole calculation is a mere estimate, an allowance of anything annually for interest is quite as likely to increase the discrepancy between the fund

accumulated and the amount actually needed as it is to decrease it.

The substance of the whole matter lies, then, in this: depreciation inevitably goes on in such things as machinery; it goes on with increasing rapidity; but that increasing rapidity is in part offset by the fact that we necessarily in the monthly conduct of the business are making charges to Maintenance which tend to keep good the value of the machine, and in part by the fact that only in the early years can the machine compete successfully with other machines; so in practice it is desirable that the amount of depreciation charged against the product shall in each year be a decreasing rather than an increasing sum. The practical task is to determine the probable life of the machine and to calculate a reasonable rate of decrease for the valuation.

As was indicated in an earlier chapter, even bonds and other investments are likely to be changing in value,—though in this case the value may be increasing as well as decreasing with the lapse of time. Whenever any contract promises to yield more than the normal value of the property concerned, that contract is, of course, worth something to the holder. Let us examine this, more thoroughly than before, under the conditions of a bond. If, for instance, the market rate of interest for security of a certain class is 4 per cent. and a bond promises to pay 5 per cent. interest, that bond will bear in the market more than the par value,—that is, it will sell for something more than its face value because it is promising to give each year a larger sum than the market interest on its face. It commonly hap-

pens that when such bonds of a railroad are first issued, though the face of the bonds calls for but \$1,000, people will pay a considerably larger sum than that into the coffers of the railroad company in exchange for those bonds. In fact, the railroad by issuing a bond has promised to pay the purchaser not only his \$1,000 at the maturity of the bond, and the normal rate of interest, say 4 per cent., in the interim, but still a larger sum by the amount of the higher rate of interest; and for this the purchaser of the bond is willing to pay. The premium on the bond, that is, the sum paid in addition to \$1,000, is recognized, or should be recognized, by both the purchaser and the railroad as compensation for an annual payment which we may call an annuity. This annual payment, however, will cease at the maturity of the bond because only the par value, or \$1,000, will then be paid (with interest accumulated during the last period). The value of the bond, then, is made up of three elements; first, the value of the railroad's promise to pay \$1,000 at the maturity of the bond; second, the value of the promise to pay normal interest; and, third, the value of the promise to pay extra interest—that is, a sum in excess of the normal rate. If the bond called for only the normal rate of interest on the par value of \$1,000, it is obvious that it would bear no premium at all, for the purchaser would be getting just the normal rate of interest on his money during the life of the bond and the repayment of his principal at maturity.

At the end of one year after the bond is issued, the railroad's promise to pay more than the market rate of interest is less valuable than before, simply



because the promise is now of shorter duration and not so many payments of this excess interest remain; at the end of the second year the promise to pay excess interest has shrunk by two years' value; and so on until the end of the time, when all these excess interest promises will have expired, and the bond will be worth just par. It is obvious, therefore, that if we wish our books to represent the value of our property we must each year reduce the valuation of all bonds which have been purchased at a premium; for by just the degree of their approach to maturity there has been a shrinkage of value. The amount of such shrinkage can always be learned readily from published tables which show what is the value of bonds paying practically any common rate of interest on the basis of what is assumed to be the market rate. A bond table, for instance, will show what is the value of a 5 per cent. bond for any number of years or half years on the assumption of a market rate of interest of, say, 2%,  $2\frac{1}{4}\%$ ,  $2\frac{1}{2}\%$ ,  $2\frac{3}{4}\%$ , and so on up to 5% and 6%. Some tables, indeed, show the values of bonds worked to bases as close to one another as one hundredth of one per cent.

If, on the other hand, a bond pays a lower rate of interest than the purchaser believes to be right for the kind of security which it offers, he will pay less than the par value of the bond for just the same reason that in the other case he pays more. If, for instance, he considers that in view of the risk involved the bond ought to pay 5%, but it actually pays  $4\frac{1}{2}\%$ , he will pay less than par by the amount of difference of interest for the number of years that it has to run. As such a bond approaches maturity,

therefore, it will be gradually increasing in value; for since the bond promises to pay \$1,000 on maturity, with each year's lapse of time that valuation of \$1,000 is getting nearer, and the length of time for which the owner will be receiving less than the market rate of interest will be shorter. If the bond is good, the owner is sure of \$1,000 at the end of the time, and, therefore, he will at every new closing of his books increase on his books the valuation of the bond toward the thousand-dollar point. The amount of such valuation can be found, as for bonds at a premium, in bond tables.

Similar to bonds are all other documents promising to pay a fixed sum of money at definite intervals, such, for instance, as leases and contracts for the payment of royalties. If a change has taken place in the value of real estate so that property which we can hire, because we have long held a lease, for \$1,000 a year, is really worth \$1,500 a year to us, that lease is a source to us of an annual saving of \$500. It may be worth while, indeed, to purchase such a lease of someone else and pay him a price which is equivalent to this annual \$500 profit. Obviously, however, as the expiration of the lease approaches, the lease is less valuable; for if it was taken originally when the lease had five years to run, it was then a promise of five \$500 savings, the next year it is good for only four \$500 savings, the next year for three \$500 savings, etc., and at the end of the period, since there will be no savings remaining, it will be valueless,—unless, indeed, there is a provision in the lease for its continuance at the option of the holder. We must each year, therefore, reduce the valuation of

the lease on our books in proportion to the reduction in the number of \$500 savings. This reduction, however, would not be exactly \$500 because, on the principle of discount previously discussed, \$500 payable some years in the future is not worth \$500 to-day. We should simply find the present worth of each of these \$500 savings and each year reduce the value of the lease by the present worth of the most remote saving—which would be the same as the present amount of one installment less the increase in the value of the other installments (due, of course, to approaching maturity).

In almost all businesses there are frequent prepayments, such, for instance, as taxes, insurance and rent. At the time of making such a prepayment we may charge it to either a property account or a nominal account according as the circumstances seem to make worth while. If, for instance, we were to pay the premium on a five-year fire insurance policy, we should recognize at the time of the entry that it was not all a charge against this year's revenue, and we should be likely, therefore, to charge it to a property account because the policy is a good asset as long as it remains unexpired. We should recognize, however, each year—or, indeed, each fraction of a year, if we attempt to determine profits oftener—that a certain portion of that has expired and must be written off the books.

It is not enough to trust to memory in providing for depreciation at the end of any earning period. In closing the books at such a time one should run through the ledger or the trial balance carefully and see whether any accounts treated as real include



items which have disappeared either entirely or in part as assets, and now represent only explanations of shrinkage which must be made good out of product.

The method of entry for these different treatments of depreciation will necessarily differ. So far as depreciation is prevented by maintenance, the only entry is, of course, to debit Maintenance for actual costs; then, as Maintenance is a nominal account, it is closed out into Profit and Loss, and the assets remain at their original value—as they should, since they have been maintained unimpaired. So far as Maintenance has failed to keep up the value of property, Depreciation should be debited as an indication of shrinkage. The natural credit to make at the same time, of course, is to the account representing the property that has declined; for that account should no longer stand debited with property that has disappeared. When Depreciation has been carried to Profit and Loss, therefore, things are as they should be,—a nominal account debited for the consumption of property in carrying on business, and the real account written down to the value remaining. If, finally, a depreciation fund is set aside, out of product, to replace the exhausted property, the only change is in the addition of another entry for the investment of the cash. In that case, the business has converted one kind of property into another,—possibly machinery worn out in converting itself into goods, goods converted into money, and money converted into an invested fund; and in the end everything is the same (neglecting profit or loss in the operation) as in the beginning except that

in place of a part of the old property the business now has a fund provided for the purchase of new property.

Whether such a fund should be invested in the business itself or outside is a question not of accounting, but of business management. It must be realized, however, that a fund tied up is in one sense no real fund at all.

## CHAPTER XI

### PROFITS

In the last chapter we discussed the general nature of depreciation and the methods of determining what allowances should be made for it. In general, it may be said that the profit of a business is its income from operation less expenses and allowances for depreciation. To learn this profit seems a simple task of bookkeeping. As a matter of fact, however, the determination of each of these three elements is likely to involve calculation and judgment of many things not normally on books of account. In every business debts are constantly accruing, either in its favor or against it, long before they can well be entered on the books. If, for instance, taxes are assessed on May 1, and the close of the business year is January 1, to the expenses otherwise determined on January 1 must be added the proportionate charge for the year's tax—that is, eight months' taxes accrued but not due. Similarly, if any notes outstanding bear interest, the charge is day by day increasing against the firm. If the firm, on the other hand, holds notes bearing interest, the amount of such interest is accruing in its favor. If the business has taken discount on notes accepted from its customers, every day brings nearer the due date of those notes and, therefore, increases their value; and any notes which



the firm has had discounted for it by others are by approaching maturity becoming heavier liabilities of the business—because their *present* worth is more. Only when all such accruing items have been considered is it possible to tell exactly what has been the profit or loss for any earning period. Among large items of this sort are likely to be rents and royalties. It may chance that the business makes payment on lease and royalty contracts at periods far removed from its own fiscal dates. It is true, of course, that if the amount of such rents and royalties is neglected every year, and is constant year by year, no error will be introduced into the books after the first year; for the amount entered each year will be more or less than the amount belonging to that year by the portion brought over from the *last* year, but at the same time it will be less or more than the proper amount for that year by the amount carried over to the *next* year; so that as the expense is steady one year after another, the error on one side will exactly offset the error on the other. For the first year, however, the item may be serious and should be allowed for, and when once allowed for, it must always be allowed for or error creeps in; and in any case, if the amount varies from year to year, considerable error will be introduced if the exact figure is not obtained for the exact period in question.

Persons unfamiliar with accounts may be in some doubt as to why it is worth while to draw a hard and fast line and say that certain profits belong to last year and certain others to this. If it were true that the persons who lost in this year would gain in the subsequent years, or *vice versa*, it would not usually

matter seriously, even though the line were not drawn with absolute accuracy; though even in such a case it is desirable that a man shall know his income with exactness, for most men determine their expenditures with some regard to their supposed incomes. When, however, the recipients of income this year are somewhat different from those of other years, it is absolutely essential, in order to attain justice, that there shall be no overstating or understating of the profits of any year. In very few corporations, except those of a more or less private type in which the stockholders are permanent, is it true that the profits held over and understated this year will, when finally distributed, go to quite the same persons as would have benefited by the early distribution. Stocks of all large companies are frequently changing hands in the market, not only because of speculation but because of changes in permanent investment. If, in any year, the profits of a business are overstated and the amount of dividend paid is larger than is strictly correct, the gain goes to the stockholders of record at that time; and this gain cannot, of course, be made up by a payment of smaller dividends to subsequent and different stockholders. Profits hidden by careless or fraudulent accounting, on the other hand, are not ultimately distributed fairly if persons ignorant of those profits sell their stock at a price based on its apparent rather than its real value. Watchful investors and speculators know often that a business is accumulating reserves which will ultimately result in larger dividends; and they can take advantage of the ignorance of others and buy at an unduly low price. They get dividends which should go to former

owners—or should have been paid for by a higher price when the stock was sold. If, when a final settlement is made between partners, the property on hand is understated, the partner selling out receives less than his due share. If an executor in settling an estate undervalues the property of that estate, and by will the income belongs to one person and the property to another, that which ought to be credited to the property may be included by this error in items to be given to the recipient of the income. Only an absolutely correct statement of values adjusted to a definite time provides with certainty that each person shall receive the proper sum in any bargain or other settlement based on that statement. For this reason accounts should be made exact and no ascertainable value should be hidden.

It may seem to some as if the method of determining profit on merchandise, as shown in Chapter IV., confuses the profits of two years and may anticipate future profits or neglect present losses. By the method described, profit on sales is determined by subtracting from purchases the valuation placed on present stock and subtracting this remainder from sales. It is obviously true that if the valuation put on merchandise at the end of the year is excessive, the cost of sales is by that much reduced, and profits are by that much overstated. It is true, therefore, that an overstatement of inventory does inflate this year's profits; but that is not the same as saying that this year's profits are dependent on a realization in the future of the inventory value now placed on merchandise. If the inventory value is correct at the day the inventory is taken—is based, that is to say,



not on expected selling price but on actual cost or on present wholesale price (whichever is lower),—this figure subtracted from the total debits to merchandise shows the *actual cost* of merchandise handled during the year past; and that cost of merchandise, when subtracted from the receipts from sales, shows the profit on the goods actually sold within the year. If in the future the inventory value now placed on the stock is not realized, a certain sum will have been lost; but it is not true that the loss has anything to do with the operations of the year just considered. That loss should be borne by the year in which it occurs, and it occurs not in buying, but in selling. A running business always needs a working stock of goods, and the stock left on hand at the end of the year is presumed to be essential for its continuance into the new year. The new year must take those goods at their value when it inherits, and any loss suffered on the sale is of no concern to the preceding year. Each year must stand on its own transactions, and though we are never sure what will be the ultimate profit on the total merchandise purchased within a year, we may learn what is the profit on that portion sold within the year, and that is the only portion with which the year is concerned. The task of valuation is to get things correct at the time it is made,—and that involves allowance for unsalable, shopworn, and otherwise depreciated stock. It should stand at the figure which is to be used in holding next year responsible for its inheritance.

In most countingrooms profits are in one particular misrepresented. It is common in many trades to

offer a discount for early payment of bills—this discount ranging from one to seven or eight per cent. Usually, as has been indicated in the chapters on bookkeeping, discounts taken by customers are debited to Merchandise Discount, and discounts taken by the business itself are credited to that account. Unless one analyzes the meaning of the prices entered on bills, this seems to be an accurate and satisfactory method, but it neglects the fact that the billed price for the goods is not the natural price. The natural price of most goods manufactured in a competitive market—and nowadays that is the common market—is the cost of production, and this means the direct cost for labor, for materials, and for other manufacturing service, plus interest on the investment, the salary of the person conducting the business, and compensation for the risks involved. If a man can afford, when he gets immediate cash payment, to sell goods at \$95, but actually on the bill enters the price of \$100 and adds a statement that five per cent. discount will be allowed if payment is made within thirty days, it is obvious that the difference between the \$95 and the \$100 has nothing to do with the cost of production of the goods. The extra five dollars, if paid, is compensation to the merchant for two things,—for interest because of delay in payment, and for the additional risk he takes in trusting his customer over a period of time. It is not true, therefore, that a business house loses when a customer takes a discount; for allowance of that discount is no more a loss than handing back change to a customer who in buying goods over the counter presents currency of excessive denomination. It is true, of

course, that if the customer did not pay until the end of thirty days, the profit would be five dollars larger, and this profit is lost if discount is taken; but it is equally true that if a customer offered five dollars for an article priced at four dollars and a half and refused to take the fifty cents in change, the business would be making a profit; and, as a matter of fact, if it gives him his change, it loses what otherwise would be profit. Yet it would be absurd to say that change measures loss. It is equally absurd to say that discounts given are losses. The ordinary method of charging discounts as losses, therefore, entirely misrepresents facts. This would not be a serious matter, however, if it were true that calling discounts losses worked equally as between purchases and sales. In both cases the discount is an amount subtracted from the billed price of the goods: for sales, a neglect on the part of the buyer to take discounts is a clear gain to the seller—provided payment is finally made at the full price; but it is not true, with regard to purchases, that the taking of a discount is a gain to the buyer; the fact is that the *failure* to take a discount is a *loss* to the buyer. The situation can be understood only if we realize always that the natural price of the goods is not the billed price but the discounted price. If the selling firm collects more than the discounted price, it is making an extra gain; on purchases, however, it is not making a gain when it pays the discounted price, but is making a loss when it pays the billed price. Books of account, therefore, should regard as losses only discounts neglected on purchases, and should represent as gains not dis-



counts taken on purchases, but discounts neglected by customers.

It is natural to think that if the discounts taken on purchases are as large in amount as the discounts allowed on sales, the business has lost nothing by neglecting to take discounts offered to it by its creditors. A little thought shows that this is entirely a misunderstanding of the situation. It is not necessary, in order to make profits out of the neglect of customers, that one shall on one's own side neglect to take discounts offered by one's creditors. The two things have no necessary connection. One may both profit from the neglect of customers to take discounts from the billed price, and avoid the loss from neglect to make early payments on one's own purchases. In view of the fact that the discount offered for early payments for goods is usually at a considerably higher rate than normal interest, it is the part of wisdom for any business with good credit to borrow money at normal rates and take all discounts, rather than to allow any to pass. If goods are sold at such terms that the full billed price must be paid in sixty days, and five per cent. discount will be allowed if the bill is paid in ten days, it is obvious that the five per cent. is allowed for fifty days' time—that is, five per cent. discount is allowed if the bill is paid fifty days earlier than the latest time mentioned. This rate of five per cent. for fifty days is equivalent to thirty-six per cent. a year. It is the height of foolishness for a merchant to pay thirty-six per cent. a year if he can borrow at six per cent. This fact is brought home to merchants usually, however, only if their books show them what is the actual loss each

year by neglect to take discounts. To set off discounts neglected by customers against discounts neglected by the business is to count a chance gain against an unnecessary loss. No man will wisely put those two things into the same scale; for he will see at once that he may as well realize chance gain and at the same time escape the unnecessary loss.

The method of accomplishing this is to shift the usual point of view with regard to discounts. We have no interest in discounts taken, for the natural price of goods is based on the assumption that discounts will be taken. Profit and loss lies only in forfeiture of discounts. Since merchants do not know whether discounts will be taken, however, they must bill goods at the full price. In any case, therefore, whether the discount is taken or not, the extra sum should be deducted ultimately from the entry to Merchandise. It is desirable that goods shall stand on the books at the lowest price at which they can be bought; but the usual method enters them at the full price and then makes a contra entry for discounts actually taken, disregarding the discounts not taken; so usually the merchandise account on the books represents neither one thing nor another, for some goods are entered at discounted cost and some at full billed cost. Under this unfortunate method a firm with such poor credit that it never takes discounts, since it debits all purchases at the full price and then never makes a credit for discounts offered, has a higher valuation on its books for its merchandise than a firm always taking discounts. This is an absurdity. The only proper valuation for merchandise is the natural price, or, as has been suggested, the lowest price at

which they are offered for sale. The proper method is to enter Merchandise for full billed price, so that the books of both parties may agree, and then at settlement make a *contra* entry for the largest discount offered, whether that discount was taken or not. This leaves Merchandise with a proper debit or credit. The other half of the entry will depend on circumstances. If discount is taken on purchases, the entry is merely a debit to the creditor for the amount credited to Merchandise—that is, the amount of discount; this, with the cash payment, closes the creditor's account, as it should. If the discount is not taken, the debit should be to Neglected Discount for the amount credited to Merchandise; for this amount is an extra payment made to the creditor above the natural price of the goods and is a loss due to neglect of prompt payment. The reverse of these entries would be made for customers' accounts,—with the substitution, however, of Collected Discounts for Neglected Discounts. Collected Discounts is a gain account. It must go in part to offset, at the end of the year, losses from bad debts—for of course there are no such losses on cash sales.\*

Misapprehension sometimes arises with regard to profits on contracts for future delivery. In case of a dissolution of a firm while contracts are in progress, the retiring partner naturally thinks that the profits already gained should be divided as a part of the general profits of the business. The continuing partner,

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\*The bookkeeping for these entries is easy to provide. Special columns in the cash book for Neglected Discounts, Collected Discounts, Merchandise, Dr., and Merchandise, Cr., furnish the medium without requiring more labor than that required by the common treatment of discounts.



on the other hand, naturally thinks that the profit on any contract is never really known until the last stroke of work has been done. In all contract work unforeseen circumstances are likely to arise and wipe out profits previously in sight; it is, indeed, in part just for this reason that so much work is done on contract, for clients believe that persons experienced in a special line of work are better able to calculate, and, therefore, to endure risks, than are others. It is true, therefore, that there is no such thing as known profit on a contract until the contract has been absolutely completed; and theoretical profits should not be entered on the books of contracting firms. In the case of dissolution, where some sort of settlement must necessarily be made, and one partner or the other insists on allowance for apparent profit or loss on contracts, a special agreement should be made. It is never safe to assume that merely because the present value of the work done shows a profit of perhaps fifteen per cent. on its cost the whole contract will show the same percentage, or anything approaching it. The only correct method is to reach an agreement between the partners as to what is the probable cost of completing the work, to add this sum to the cost of the work already done, and to consider the difference between the total and the contract price as profit or loss. Since, moreover, a part of this profit will be actually earned in a later period—that is, in completing the contract,—only a portion of this profit can be said to belong to the year in question. If the partners agree on such a division of apparent profits, no reason can be given why it may not be made; but for any partner to de-

clare that the apparent profit is actual, and to insist that he shall receive his *pro rata* share, is to reason without regard to the common experience of business. The continuing partner may justly demand that he retain a considerable margin of apparent profits to cover contingencies, or that the retiring partner give a bond to cover his share of any losses that may prove to have been suffered on contracts in which he was interested. Expenditure on an uncompleted contract may usually be counted as a good asset unless the contract is already known to involve ultimate loss—in which case it should be written down; but in no case, even in corporation accounts, should profit be counted on a contract as of any year before completion unless the work is so near completion that the danger line has been safely passed and the cost of completion is virtually known—with a safe margin. It must be understood, however, that if what is nominally one contract be really several contracts, each with its own contract price for completion, profit may be safely figured on each as soon as settlement for it is made. Losses on other contracts completed in future years do not affect the actual profits on any contract completed in this year. If any contracting firm has knowingly made some unprofitable contracts in order to secure other profitable contracts, the situation is slightly altered; but it would be hard to deny a partner's or a stockholder's right to profits made on the profitable contracts if these were completed at the time of settlement and the unprofitable contracts were still in progress. The burden of proving that the several

contracts were really one contract would be on the objector.

One item which is likely in careless bookkeeping to be treated as if it were profit, though in reality it is not so at all, is premium on stocks and bonds sold by an issuing corporation. As has already been indicated, premium on bonds is due to the fact that the bonds pay interest at a higher rate than is usual for investments of equal security, and this higher rate, being of the nature of an annual payment, has a value in the market—just as any source of income has an ascertainable value. A corporation which has issued bonds at a premium, then, has simply bound itself to paying an unnecessarily high rate of interest for a number of years. This high rate is not a loss, however, for the premium is a present lump sum given as compensation for the high interest to be paid in the years covered by the life of the bond. The premium is therefore just as much an obligation to be met as is the face of the bonds—though it is to be met not in a lump sum, as is principal, but in annual installments. It should be treated on the books in very much the same way as principal, therefore, and appear on the balance sheet as a liability; since, however, it is a liability not measured by the par value of the bonds, and not represented by any other common sort of demand or claim, it should appear on the books under a title which shall show exactly what it is; and as each year's installment of interest paid decreases the obligation remaining (since fewer annual payments will remain to be made), this account should be written off until at the maturity of the



bonds it will have disappeared. It is commonly called "Premium on Bonds Issued."

Premium on stocks issued is of somewhat different nature, for, although stocks are a liability of the corporation in the sense that the account represents property for which the corporation is responsible, the corporation is not under obligation to pay back the money so obtained. Premium paid for stock, then, is of the nature of capital invested by the subscribers, and is really just so much added to the capital investment. To consider premium on stock as profits is an error akin to treating as profits the original par value. There is no sense in which such premium can be considered anything else than capital investment, and it must always appear on the books and on the balance sheet as capital,—preferably designated under a title indicating its origin, such, for instance, as "Premium on Stock Issued," or "Premium Surplus."

It is obvious that discount on bonds issued is no more a loss than premium is gain. We saw in the chapter on depreciation that when a bond is bought at a discount its approach to maturity raises its value, for the low rate of interest is approaching expiration; and the reason it sold at a discount was that the rate was too low for the risk involved. The corporation issuing the bond, in other words, accepted a low price for the bond because some one lent money and agreed to accept less than the rate of interest common for security of that class. The corporation gets back in a low interest rate what it loses in discount. The exchange is a fair one. The discount is a good asset—it measures the value of immunity, for

a period of years, from the normal interest rate. It may appear on the balance sheet as "Discount on Bonds Issued." As the bond approaches maturity, however, the value of the asset declines, for the lifetime of the immunity is declining, and the account must be written down.

Discount on stock, on the other hand, is simply the measure of deficient capital—it measures the deficiency of actual as compared with nominal capital. This is shown in the chapter on the peculiarities of corporation accounts.

Depreciation we have seen to be one of the expenses of operation, and it must be clear that the amount to offset depreciation—either when repairs and replacements are able to keep the property intact, or when certain sums are set aside for replacement at the proper time—must be met out of the product for the year: it is not, that is to say, to be taken out of the profit, for profit consists of what is left after all expenses have been met; and, since depreciation is one of the expenses, there is no profit until the amount of allowance for depreciation has been subtracted from the product. This distinction is fundamental; and neglect of it has often led in business both to a misstatement of facts and to a serious misunderstanding on the part of many business men as to the real profitableness of an undertaking. It must be clearly understood that all allowances for depreciation are just as much costs of getting product as are wages, interest, taxes, insurance, etc.: only when all such charges have been absolutely met is there any profit to be recognized. The reason that this situation is not fully realized is that very commonly the

depreciation goes on out of sight and to great extent out of mind. If a machine produces fifty thousand articles per year and is worn out to the amount of \$500 in the process, it ought to be obvious that the five-hundred-dollar shrinkage in the machine has gone into the cost of the articles produced; in other words, instead of having a certain amount of money in a machine and no goods as we had at the beginning of the year, we have at the end of the year a smaller value in the machine and an equivalent additional value in goods or in what the goods have brought,—that is, the machine has converted its iron and steel and wood, in the form of machinery, into product in the form of cotton goods, woolen goods, steel tools, or what not. The machine is as truly consumed as is the raw material.

When we have counted all the causes of shrinkage in property, and all the causes of increase in property—as shown by the earning accounts, such as rent, commission, interest, sales, etc.,—we have a definite figure of profit or loss at the end of the earning period. The task remaining is to dispose of those profits so that they shall be available for equitable distribution to the owners of the business—whether a single proprietor, partners, or stockholders. To distribute all profits outright, at least in a corporation, is almost universally considered bad policy, for every business is subject to fluctuations of fortune. Very few years fail to give results somewhat higher or lower than the average of a series of years, and unless the owners are willing to suffer considerable variations in the amounts actually withdrawn from the business they may well



hold back in prosperous years a portion of profits to be used in lean years for eking out dividends. The possibility always is at hand, moreover, that some error has been made in the judgments on which are based the calculations determining profit. As we have seen, the figure for depreciation is, to great extent, an estimate based on pure judgment. If new machinery destined to supplant old is invented soon after equipment is installed, a manufacturer may find his assets shrunk in value by many thousands of dollars. It is the part of conservatism, even after one has taken out of product all one thinks necessary for a probable shrinkage, to set aside a sum for unforeseen and unpredictable contingencies. Conflagrations so serious that insurance companies are not able to meet all their liabilities occur now and then; earthquakes demolish property; whole trades are destroyed by changing tastes, changing habits, changing economic and political conditions. All these things show that it is wise for a corporation or other business organization to set aside regularly out of profits in all years except the poorest certain sums which shall enable them to meet unforeseen losses. These sums ordinarily would appear on the books as subdivisions of the profit and loss account. As we have already seen, the profit and loss account normally will have a credit balance, and if dividends paid are less in amount than the amount standing to the credit of that account, the balance is simply a surplus held back for contingencies. That amount held back may remain either under the head of Profit and Loss, or under some new title to indicate its purpose, such

as Reserve, or Depreciation Reserve, or Security Reserve. Sometimes such an account is called "Reserve Fund," or "Depreciation Fund."

It must in any case be realized that these accounts are purely nominal. They explain the fact that of the total assets of the business some are profits, and that these are not to be distributed as profits, but are held for special purposes. These accounts serve to measure the amount of assets set aside from profits as a margin of safety. If, on the other hand, the corporation wishes to set aside specific assets for specific purposes—to label them, so to speak,—it will invest some of its assets in special funds and will give each fund a name to indicate its purpose. In such a case, the reserve will appear on the credit side of the balance sheet, to show the origin of the property (that is, profit reserved), and the property in the fund will appear on the debit side of the balance sheet as an asset. When the item does not appear on the debit side, no specific property is set aside: that is, the reserve is simply an *excess* of assets *somewhere, anywhere*, in the property—but not designated as a *particular* bit of property.

We have so far been working on the supposition that the books represent affairs as they are. Unfortunately, this is not always the case and a different result is sought frequently by men who have the highest ideas of truth and justice. Many men wish to make sure that they have not overstated their profits, and in making up their figures for the end of a year they habitually take the precaution of recording expenses as a little larger than they really believe expenses to be. The result of this is to assume

that the property is not quite so valuable as it really is; that is, in order to be on the safe side they assume depreciation to be larger than it really is. Sometimes repairs and replacements have not only kept machinery and other equipment in good condition but have been of such nature and of such extent as to make the property really better than it was before; and yet the full cost has been charged to maintenance as an expense. On a railroad, for instance, it is common to improve the line continually by putting in heavier rails, better ties, better ballast, better bridges, better buildings, and yet charge the cost to operating expense. Obviously, so far as these expenditures have produced a better road, the excess can quite properly be charged to capital. When this is not done, on the contrary, the charges are included as mere repairs, the whole cost is taken out of the product of the year, and profits are reported smaller than they really are. The excess exists in the road; but since this excess does not anywhere appear on the books as an asset, it constitutes what is commonly called a "secret reserve."

It is unquestionably good business policy to provide ample reserve to improve constantly one's facilities for doing business,— unless, indeed, the proprietors intend to retire from business; but since the purpose of accounting is always to show facts, any bookkeeping process by which reserves of any sort are kept off the books is reprehensible. It is nothing but a lie pure and simple, and however harmless it may be in intent, it is unscientific. Those who defend this method of creating reserves commonly do so on the ground that stockholders would foolishly



demand further dividends if they knew the facts. Whether stockholders are wise or foolish, they have the right to know the facts.

One reserve created with the full knowledge of all interested persons is often so far misunderstood that it is not commonly known to be profit. When a sinking fund is created out of profits, in accordance with a legal provision in a bond, for the redemption of debt, it is reported on the balance sheet as a liability. It is established on the books, of course, by a debit to Profit and Loss, or Surplus, and a credit to Sinking Fund. It appears to be the mere satisfaction of a legal liability. As a matter of fact, however, that legal liability is not really a new one, or an addition to the liability covered by the bond itself; it merely specifies how the principal liability shall be discharged. The sinking fund is profit when set aside, and it continues to be profit even when used. Profit may be invested in the payment of liabilities as well as in the purchase of assets. If the fund has been set aside out of profits the assets must be in the business—else there were no profits to set aside. When these assets are used to pay debt, they, with the debt paid, disappear from the balance sheet; but the sinking fund remains on the balance sheet, for nothing has happened to cancel it. It is now, as it always was, a mere measure of reserved and labeled profits; but now that the assets which constituted the real fund have been applied to the designated purpose, the fund is set free and the label may be removed. To invest surplus earnings in paying off debt no more destroys their character as earnings than does purchasing merchandise or other assets: in both cases

the net earnings have made possible more net assets. The situation is quite the same, except for the convenience of the label, as if from the start the sinking fund had been called simply "surplus."

We must now note that it is commonly worth while to distinguish between different kinds of profit and loss. We have been considering chiefly the profits of normal primary operation; but many businesses have not only common outside operations, but extraordinary occasional profits and losses. Examples of the common outside operations are outside bond and stock investments, and ownership of real estate not used in the business. Let us first examine extraordinary gains.

If the business owns land and buildings which it has been using in the ordinary course of its transactions, and, because of a change in conditions in the town or city where it is located, its land has risen largely in value and it sells at a high profit, that gain, though distinctly profit, is not really profit of the year in which it has been realized nor is it profit of operation. It does belong to the proprietors or stockholders; but if the books allow it to appear as of the ordinary type, they are seriously misrepresenting the facts. Such gains may be, of course, distributed to stockholders; but the books should show very clearly, and the declaration under which the dividends are sent out should state very clearly, that this is of an extraordinary nature, the like of which is not expected to occur very often.

Because things of this sort are likely to happen now and then, it is desirable that ordinary profits, i. e., profits from normal sources, shall be carried to

an account distinguished from general Profit and Loss. Such an account may be called "Earnings." To it should be credited all earnings from the primary operations of the business—that is, revenues from the operations which the business was primarily organized to carry on,—and to it should be debited the expenses which have been incurred in securing those revenues. The balance of this account may then be transferred to an account called "Income."

Similarly, to Income should be added normal revenues from outside operations, like interest and dividends on investments, and rents on real estate. The balance of Income may then be transferred to Profit and Loss, and there meet all extraordinary gains, such as that assumed above on real estate.

These three accounts together give a complete statement of the business of the year, showing how far the business is successful in its primary operations, how far outside interests affect its profits, and how much extraordinary relations have yielded it profit or caused it loss. Many business men deem it wiser in the case of extraordinary profit, such as that assumed above on real estate, to carry the gain directly to surplus or reserve accounts, and thus avoid the temptation to distribute it as dividends: they think that this should always be reserved and held available to cover extraordinary losses and by so much relieve the ordinary earnings from the necessity of contributing to such reserves. This is a matter of administrative policy which affects the accounts only as the accounts must register it.

When we turn to the other side of this aspect of extraordinary circumstances and look at losses, we



see even greater need of making distinctions. If, instead of an increase in value of real estate, the business which we were just discussing should find that its property had fallen heavily in value because of changed business conditions, and that it could no longer transact its business in the old quarters, it would probably be forced to purchase or hire new property at far greater expense than could be covered by the sum realized from the sale of the old. This loss ought not to be charged as expense of the year just passed, however; it would be a loss of capital, and would have no relation to the profits of the year. Though this loss in the value of real estate might amount to \$100,000, the profit of the year might still be \$20,000; for the actual profits of conducting operations are not affected by changes of values *not produced by those operations*. It might be true that if the business were obliged to sacrifice many of its assets in the purchase of the new real estate required, its profits in succeeding years would be very much lower, for it might not then have enough working capital; but that fact would not in the least alter the situation for the year just past. The profits of this year would still be \$20,000; and the shrinkage for the future would be due to a loss of capital assets because of changing conditions, and to that only. It is feasible for a concern which has suffered such a loss to distribute its \$20,000 earnings in the form of a dividend. It ought, however, in doing so, to point out to all stockholders that, although this is an earning, the enterprise has suffered a loss of capital to the amount of \$100,000. The stockholders may prefer to forego dividends for a

while and to restore their capital out of earnings. In many cases this would be done. What shall be done, however, is a matter of policy; and accounting has only to record the facts. The accounts must show the shrinkage of capital until capital is restored. If the surplus, or reserves, are not large enough to cover the shrinkage, a deficit must be shown on the balance sheet—unless, indeed, the amount of capital stock is reduced by calling in stock and issuing either fewer shares or shares at a lower par value.

## CHAPTER XII

### THE INCOME SHEET

We saw long ago that it is convenient to use the trial balance as a basis for a six-column statement which shall show profits and losses and resources and liabilities. The loss and gain columns of a six-column statement may in a sense be called the "income sheet." As already suggested, however, corporations making reports to their stockholders do not usually use this form, but substitute a different arrangement of the items. We saw in the last chapter that it is desirable to distinguish on the books between different sorts of gain, and we may well continue the distinction through the income sheet. A good income sheet will make it possible to compare the gross gain from the primary business with the cost of conducting that business, so as to show the ratio of net profit of that primary business to the amount of business done; it should show the income from external sources of revenue, so that these may be compared with the investment in external enterprises; it should show extraordinary and chance losses and gains; and, finally, it should show not only what is the final net income but what is done with it,—that is, how much is distributed as dividends and how much is laid aside for surplus or for special funds. An income sheet is good or bad in



form just in the degree by which it shows clearly the relations between these various elements of loss and gain.

An income sheet may take the form of either a table or a group of accounts. We have seen that in ledger accounts no subtraction is ever made. An income sheet presented in ledger form, therefore, will show three separate accounts, each with its balance added to the contrary side. A sheet constructed on the tabular method, however, will show subtractions and no transfers of balances. Let us take first the ledger form. If a corporation is engaged primarily in trading, the first part of the income sheet is usually called the "Trading Account;" if in a manufacturing and selling business, this part is called the "Manufacturing and Selling Account;" if in rendering services, as is a railroad corporation, this part is called the "Operating Account."

It is not usually necessary to place the items coming from outside sources of income in an account entirely by themselves, for the addition to these of the net balance of the Trading Account, the Manufacturing and Selling Account, or the Operating Account, is usually desirable in the end, and introduces no confusion. This combined account is usually called the "Income Account." Its first item is usually the net balance brought down from the Trading Account (or other account for primary income); to this credit balance are added all other sources of income; and all expenses or losses from normal outside relations are charged to this account. The net balance of the Income Account is then carried as the first item to Profit and Loss.

To Profit and Loss, after the balance of Income has been brought down, may be carried income from extraordinary sources,—which may or may not be available for dividends, according as the directors vote to distribute that extraordinary gain or carry it to surplus. If this is not destined for dividend purposes, it should be carried at once to surplus. Debited to Profit and Loss, of course, are extraordinary losses, dividends declared, and any sums transferred to special reserve accounts. Unless the profit and loss account is to be used as a surplus or deficit account, it will disappear in closing the books at the end of the year. If it is so used, a balance on the credit side is surplus, and on the debit side is deficit. To use it as a surplus account is undesirable, however, for when it is so used no account shows as a balance the net gain or loss for a single year. The net gains or losses for each year are lost in the mass of general profit and loss balance and must be picked out if they are to be known. Profit and Loss may better be opened afresh and closed for each year; any balance should be carried to Surplus or to Deficit.

This Surplus or Deficit is clearly a connecting link between the income sheet and the balance sheet. The income sheet is intended to show gains or losses occurring during the year, and the balance sheet to show results at the end of the year. So far as gains are not distributed, or are distributed in excess of revenue, the balance remains at the end of the year and therefore belongs on the balance sheet.

This ledger form of income sheet is shown below:

## TRADING ACCOUNT

Purchases	525,000	Sales	575,000
Wages and salaries	50,000	Inventory	100,000
Expenses	25,000		
Bad debts	3,000		
Depreciation	5,000		
Balance	67,000		
	<u>675,000</u>		<u>675,000</u>

## INCOME ACCOUNT

Loss on mortgage	2,000	Balance Trading Acc't	67,000
Balance	68,000	Interest and Dividends	3,000
	<u>70,000</u>		<u>70,000</u>

## PROFIT AND LOSS

Loss by defalcation	10,000	Balance Income Acc't	68,000
Dividends	50,000	Surplus	2,000
Depreciation fund	10,000		
	<u>70,000</u>		<u>70,000</u>

In the case above, the loss on the mortgage is considered to be normal, incidental to outside operations, and is therefore charged to income. The loss by defalcation, however, is considered to be extraordinary and therefore not charged to either Trading Account or Income Account. It reduces the amount of surplus; for if this defalcation had not occurred Surplus would have been credited \$8,000, whereas it is actually debited \$2,000. The total increase in reserve (after dividends have been provided for) is actually \$8,000,—\$10,000 is added to the depreciation fund, but of this only \$8,000 has come from revenue, for \$2,000 has been transferred from the general surplus.

Now let us see the same income sheet arranged in tabular form.



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Sales		\$575,000
Purchases	\$525,000	
Inventory	100,000	
	<hr/>	
Cost of goods sold		\$425,000
Wages and salaries		50,000
Expenses		25,000
Bad debts		3,000
Depreciation		5,000
		<hr/>
Cost of sales		508,000
		<hr/>
Trading profits		67,000
Interest and dividends on investments	3,000	
Loss on mortgage	2,000	
	<hr/>	
Other income		1,000
		<hr/>
Net income, available for dividend		68,000
Dividend		50,000
		<hr/>
Surplus for the year		18,000
Loss by defalcation	10,000	
Added to depreciation fund	10,000	
		<hr/>
Net reduction of general surplus		2,000

These figures are the same as the others, and show the same groupings, but they form a single series, with both additions and subtractions, whereas the others were split up into distinct accounts with many *contra* items.

Very few corporations publish income sheets of much value to one who is trying to interpret the accounts from the outside. It is common for corporations to combine operating expenses, taxes, and depreciation, and to subtract them in one lump sum from the gross earnings. The result is a figure which is virtually unmeaning. Taxes are to great extent independent of management, and their combination with operating expenses, which are much affected by good or bad management, produces a figure which means neither one thing nor the other; for it is an adequate test neither of the government

demands on the corporation, nor of the economy of management. Since, moreover, depreciation allowances are, as we have seen, largely a matter of judgment, and here they are not shown independently, we know from these figures really nothing about the policy of the corporation in this very important particular. A fundamental principle of good reporting is that items which are the result of different kinds of activity shall be kept separate. An income sheet, to be of any value to a reader, must show the operating figures absolutely independent of other figures; then the reader may compare the total expense of operation with the total gross earnings, and learn about what percentage is maintained between the two.

The Interstate Commerce Commission, which is by law authorized to prescribe the forms of report for railroads, arranges the consolidated income figures for each railroad so that we see things in their natural relations. The first figure is the gross earnings from operation—which includes all earnings coming from the direct operation of the road independent of income from extraneous sources. The next item is so-called operating expenses, which may be defined as those expenses incurred in acquiring the gross earnings previously shown. The difference between these two figures is the “net earnings.” It is customary for persons attempting to judge of a railroad’s activity to find what is called the “operating ratio”—that is, the percentage between the operating earnings and the operating expenses. On some roads this percentage will run higher than eighty, on others lower than fifty. On most roads

it falls between sixty and seventy-five. If we know the road to be in a part of the country where the expense of maintenance, because of the climate and level roadbed, is small, and where labor and fuel are inexpensive, we expect to find a rather low operating ratio. Unless, indeed, we know a road to be exceptionally well kept, or to be recovering from a period of deficient maintenance, we suspect at once that an operating ratio of seventy-five per cent. indicates wastefulness in operation. If, on the other hand, we find a road whose expenses are inevitably large—because of the nature of the country through which it runs, of the expense of its fuel (perhaps because of long hauls), and of the high rates of wages,—we are a little suspicious of an operating ratio of lower than sixty per cent.; we suspect at once that false economy has led to failure to keep the roadbed and the equipment in good condition. These illustrations are intended not to pass judgment on railroads, but to indicate that the figures desired on an income sheet are those that can be compared,—that is, figures pertaining to the same thing, as, here, earnings from operation and expenses of operation.

Recently the Interstate Commerce Commission has required roads to distinguish between strict transportation operations and other operations. Consequently the operating revenues and operating expenses heretofore treated each as one item now comprise two items and the net result is shown for both transportation operations and outside operations. These results recombined show net revenue.

From this net revenue is subtracted taxes. Until



lately taxes were taken out only after other income had been added. They are now deducted at this point because primarily they are fixed operating charges.

The next item on an Interstate Commerce Commission income sheet is usually "other income." This includes rents earned, interest on bonds and dividends on stock owned by the road, and any income from miscellaneous sources. The sum of the net revenue and the other income produces gross income.

We have now to subtract the expenses or costs independent of operation—such, for instance, as interest on bonds issued by the road itself. The remainder is "net income." Not many years ago some roads were in the habit of reporting their own declared dividends in a lump sum with interest on their bonds. From one point of view these things are similar, but from another they are widely unlike, for bond interest is obligatory, whereas the payment of dividends is voluntary; and the only means we have of judging how far the distribution of dividends is justified is to see what relation they bear to the amount available for dividends. All involuntary expenses not already provided for should be subtracted from gross income before voluntary payments like dividends are introduced to confuse the result. When taxes were included in this group of expenses, the group as a whole was usually called "fixed charges," for these would usually continue even if the road ceased operation.

The net income is of course available for dividends. From this the dividends are subtracted, and

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the balance is surplus for the year. This surplus may be reduced or eliminated by transfer to separate reserve accounts or to the general surplus. An income sheet constructed by this method is shown below.

Gross earnings from transportation		\$32,046,656.56
Operating expenses for transportation		20,545,533.12
Net transportation earnings		11,501,123.44
Expenses of outside operations	\$412,859.64	
Receipts from outside operations	336,509.44	
Deficit from outside operations		76,350.20
Net revenue		11,424,773.24
Taxes		867,209.03
Net operating income		10,557,564.21
Other income		1,632,659.89
Gross income		12,190,224.10
Interest, rentals, etc.		9,881,088.47
Net income, available for dividend		2,309,135.63
Dividends paid		519,742.12
Surplus for the year		1,789,393.51

The form of income sheet just illustrated does not cut up the total into groups quite similar to those previously described, but it produces the result there sought. In every case the accountant must decide what is the clearest form. Persons not familiar with bookkeeping are likely to be puzzled by the balances transferred from side to side in the ledger form, and therefore income sheets for general publication are likely to serve their purpose best when presented in a single table, as above and on page 309.

For corporations engaged not in earning profits but in administering funds for general welfare, such as public libraries, hospitals, etc., income from extraordinary sources—legacies, for instance—ought

to appear in connection with the income sheet because if unrestricted they affect the total amount which these institutions may currently expend for public good. Yet if these legacies are not needed for current expenses, they may be added to capital. Both possibilities should show. For such institutions, therefore, the income sheet is far more complicated than for the ordinary type of commercial enterprise.

In any case it must be realized that income from whatever source if not paid out in dividends or absorbed by expenses must go ultimately to swell a balance on the balance sheet; and, therefore, we shall find the income sheet and the balance sheet tied together by one common item in spite of the fact that usually an income sheet may be said to contain only nominal figures and a balance sheet to contain only real figures. This common item arises from the fact that the final balance of income is in one sense no longer nominal, for it has become real when at the end of the year the books are closed and the amount remaining is carried as a claim of the stockholders to property in the business. This surplus (or reserve, or undivided profits, or balance of profit and loss) belongs to the stockholders as much as any items credited to any creditor of the company; it differs from capital stock, which is recognized as a liability, only in that the capital stock belongs to individual stockholders, as shown by certificates of stock stating how much each stockholder owns, whereas these surplus accounts represent sums not yet divided among the stockholders but held for stockholders as a whole.



## CHAPTER XIII

### THE BALANCE SHEET

Let us now examine the balance sheet and see in what form it will give the maximum information about the condition of a business. The purpose of the balance sheet, as we have seen, is to show the amount of property in the business, or, primarily, its solvency,—that is, how far its property is in excess of the claims against it. With this fact in mind it is easy to see that the sheet should be so arranged as to indicate not only what is the ultimate solvency—that is, how much in the course of time may be realized on property as an offset against debts,—but also how much of the property can be converted at once into a medium for paying debts. Many a corporation which has proved perfectly sound, when given all the time it wanted to make collections and to sell a part of its property, has been forced into bankruptcy because its liabilities were immediate and its assets were rather remote. In those cases bankruptcy was simply a legal device to extend the time for paying debts. In many such cases every cent of indebtedness was paid. A balance sheet does not really perform its services, therefore, unless it presents items so arranged that one may see by it what are called quick assets and compare them with current liabilities. Indeed, the balance sheet will

serve its purpose best if it is cut up into several groups of items. The arrangement of these groups may depend in part upon the purpose for which this particular balance sheet is presented. A person who is thinking of investing in a business, for example, is concerned quite as much with its ultimate solvency as with that which is immediate; but a person who is thinking chiefly of lending to it is concerned more with its immediate solvency. On general principles, however, persons examining a balance sheet are concerned much more with the really ultimate value of the property than with its immediate use, and, therefore, they are usually interested primarily in its capital items. For that reason the capital items, which constitute a group by themselves, are usually placed first; these are followed by the current items; then usually by items accrued, though not yet due; and, finally, by items which are more or less subject to chance, and may be called "contingent." Let us analyze a balance sheet with this grouping in mind and observe its arrangement.

The first group, or capital items, on the assets side comprises the fixed property,—such as real estate, plant and machinery, permanent investments, etc. The capital liabilities are not only capital stock, or proprietor's investment, but also funded debt, or bonds and mortgages running for a term of years. Very commonly funded debt is actually permanent though nominally it has a limited term; for most corporations pay off debt by borrowing anew. In many lines of business capital assets and capital liabilities are nearly equal. The reason for this correspondence lies in the fact that the primary function

of capital is to furnish the means with which business is carried on, and in many lines of business the chief means is permanent property. A certain excess of capital, however, is usually necessary in the form of what is called "working capital," or property which is available immediately for current use. It is likely to happen, therefore, that the capital liabilities will be in excess of the capital assets, the difference being just this working capital. That is not always the case, however, because, as we have seen, surplus may have been accumulated, and this surplus may have been invested in the form of capital assets, such as real estate, stocks, and bonds. In that case, of course, the capital assets will be actually in excess of the capital liabilities, that excess arising from surplus which is really capital, though not usually included in the capital group of liabilities. Surplus, indeed, will usually stand on a balance sheet in a group by itself, for it may be either capital, if intended to be permanent, or current, if temporarily set aside with the intention of distributing it later as dividends.

The current items would include usually on the assets side Bills Receivable, Accounts Receivable—as customers' accounts are commonly called—and cash. Each particular line of business is likely to have its own current assets slightly different from those of other lines; a railroad, for instance, will have sums due from other roads, and collections due from agents and conductors. The current liabilities, on the other hand, will include Bills Payable, Accounts Payable—or sums due to creditors,—and other items peculiar to different lines of business—such, for a



railroad corporation, as sums due to other roads, and audited claims. The position of supplies and materials on a balance sheet varies with different lines of business and with different firms in the same line. Some accountants assert that since a minimum of supplies and materials, such as raw cotton in a cotton mill, pig iron in a foundry, etc., is essential to the conduct of business, such minimum is of the nature of capital assets and should be so classified on the balance sheet. Other accountants believe that, though supplies are required for the conduct of business, they can be so readily converted into cash that they are equivalent to current assets,—even though there is no intention of selling them. Indeed, the position of these items is dependent, like a great many other things in accounting, on the point of view. If we are considering the business as an earning machine which is to go on, supplies are of the nature of capital, no doubt, and yet they are not permanent, as we usually expect capital items to be. They are working capital. If, on the other hand, we are considering the balance sheet chiefly as it throws light on immediate solvency, the supplies are current items, though presumably they cannot be sold for cost if their sale is forced. The real purpose of the current group of items in the balance sheet is not so much to distinguish what can be immediately converted into cash as to show those items which in the ordinary conduct of the business can be turned over readily for the purposes of the business; and surely materials and supplies are quite as available for the ordinary conduct of the business as are Bills Re-

ceivable and Accounts Receivable. For that reason it seems best to place them in the current group.

The next group of items, which we may call "accrued," may be said in one sense to belong among the current items. The real distinction between these two groups lies in the fact that the current items have been already entered on the books prior to or at the date shown for the balance sheet as a whole. The accrued items, however, are not supposed to be entered at that time, for they have not reached the period of culmination. To consider the current items as a whole, therefore, we must really add all accrued items to those contained in the current group; the total will be the assets immediately or soon available and the liabilities immediately or soon to be satisfied. On the assets side the accrued items may be rents, interest, and other earnings, which the lapse of time has made good claims of the company, though they are not yet due; and on the liability side the same sort of items (usually including taxes) will appear as accrued against the company, though they are not yet payable.

Concerning the treatment of the last, or contingent, group of items, much difference of opinion has arisen. If a small corporation has guaranteed large liabilities for some other corporation, that guarantee may at some time prove a heavy drag on the guaranteeing company, and should therefore be reported even though there is little probability that it will ever cause trouble. It is rather common, for illustration, for railroads to guarantee the bonds of their subsidiary lines. Usually the subsidiary line is expected to earn enough to pay its own debts; but if

the investing public has not faith in it, the controlling corporation may undertake to create a good market for the obligations of the subsidiary line by guaranteeing the payment of interest, or of both interest and principal. These guarantees ought to be reported in some form. A common device is to report them at the bottom of the balance sheet as contingent items on the liability side. As an offset against these, so that the total liabilities of the whole sheet shall not exceed the assets, it is possible to report as an asset the claim which the railroad has against the subsidiary road in case the guarantee is fulfilled. This is satisfactory if it is true that the asset reported in the contingency group is an adequate offset to the liability. This often, however, is not the case, and the road which offers the guarantee gets in return for that guarantee simply a claim against the earnings of the controlled road, and this claim is not properly susceptible of statement as an asset in quite the same terms as the liability which it is supposed to cover. It is far better, then, instead of reporting the contingent liability with other liabilities, offset by an arbitrary asset on the other side, to leave off the contingent item entirely from the balance sheet and mention it in a foot-note with a statement of the claim which justifies it.

Another sort of contingent item rather common is that for notes endorsed and discounted, or sold to another firm. Frequently, for instance, banks in the large cities have made upon them more demands for loans than they can well supply out of their own funds, and at the same time banks in districts removed from financial centers have more funds avail-



able for loans than the demands of the communities absorb. A natural combination is made, and banks having many requests for loans sell to their correspondents in other places some of the notes which they have purchased at a discount, and by that means utilize the funds otherwise lying idle in the vaults of their correspondents. In other words, the banks rediscount the notes which they themselves have discounted. Usually in this case the banks which took the notes originally and knew about the people to whom the loans were made guarantee payment to the banks which purchased these notes from them. This guarantee is of the nature, then, of a contingent liability of the large bank; but it is offset by the claim which the bank has and believes to be good (else it would not have made the loan) against the people to whom the loan was originally made or against the endorsers of the notes. It is customary, therefore, for national banks to report among their liabilities notes rediscounted, and at the same time to include in their loans (that is, their claims against business houses for loans made) these same notes sent to their correspondents for rediscount. The result is that these notes appear on both sides of the balance sheet. This device shows all the facts, and indicates properly what assets offset the contingent liabilities. Similarly, business houses that have discounted with banks notes received from their customers should show their liabilities for ultimate payment if their customers default. Such discounted notes may well appear on both sides of the balance sheet as contingent items. If the makers of these notes default, the business must pay, and hence the

liability is contingent; but in that case the notes revert to the business and become an asset on which it will collect if it can. This method of statement shows just how much is outstanding. The probable losses from this source are intended to be covered by Allowance for Bad Debts among current liabilities (counted as current because it offsets certain current assets).

In municipal accounts it is rather common for contingent items to appear because often cities require that contractors shall make deposits in the nature of guarantees that they will carry out properly their contracts for street construction and other public work. If the contracts are properly fulfilled, these sums deposited must be repaid; if not, they will be used to offset the loss which the city suffers from the failure of the contractor to perform his work properly. Usually, therefore, they are only loans to the city. On the other side of a municipal balance sheet there are likely to be items of taxes so long due that there is probability that they will never be collected. It is thought unwise to write them off as uncollectible, and equally unwise to include them among current assets. The contingent group on a balance sheet furnishes a convenient place for reporting items of this sort. All contingent items must be judged with due consideration of the nature of the contingency.

Attention has already been called to the fact that normally one item on the balance sheet is derived from the income sheet. The surplus, as shown by the income sheet, is a liability of the company to stockholders, and must be reported as such. As

appearing on the income sheet, however, it is related only to the particular year in question; but if any surplus has been accumulated in preceding years, the surplus for the current year added to the surpluses of other years will produce a new total which will appear on the balance sheet, and, therefore, the figure on the balance sheet will be different from that on the income sheet. The surplus on the income sheet, in other words, is a surplus from one year, but the surplus on the balance sheet is an accumulated surplus of all years. The same thing is true with regard to deficits, of course, for both income sheet and balance sheet may have deficits as well as surpluses; and a deficit on the income sheet, combined with a larger surplus on last year's balance sheet, still leaves a surplus for this year's balance sheet, whereas a deficit on the income sheet, combined with a deficit on last year's balance sheet, produces a larger deficit on this year's balance sheet, and a deficit on the income sheet, combined with a smaller surplus on last year's balance sheet, produces a deficit on this year's balance sheet. As was indicated in the last chapter, moreover, a deficit on the balance sheet is still consistent with one kind of surplus on that sheet. A surplus, as we saw, may originate not only out of profits, but from a contribution of capital, as when stock is sold at a premium; and a deficit may have originated in either operations or extraordinary outside losses; so if both have occurred, confusion should be avoided by reporting them separately. The desirable thing is to report them not only so that each shall be clearly shown, but so that each shall be read in connection with the other.



If both must appear, therefore, one as a surplus capital contribution, and the other as an operating deficit, each should have an appended note calling attention to the extent of the other; otherwise a careless reader of the report may be much impressed by one and fail to observe the other.

In the minds of many persons, a balance sheet is confused with a statement of resources and liabilities. Theoretically, a balance sheet and a statement of resources and liabilities are the same thing; but practically they are not always so. A balance sheet ought theoretically to show not only what is the exact state of affairs, but what is the exact condition of the books; and yet not always can the books show for each particular branch of the business just what is the state of affairs. It is impossible, for instance, to reduce on the books the amount of claims against customers; and yet the accountant may believe that possibly five per cent. of those claims will never be paid. The bookkeeping difficulty is that he is never sure which particular claims will fail of payment, and, therefore, he cannot be sure which accounts ought to be written off. He must still maintain those claims on his books at the full value, though he knows that as a whole they will yield only ninety-five per cent. of the full value. A device must be provided therefore to reduce assets by the amount of expected shrinkage in these claims; and yet if that reduction is made by subtracting from any figure of assets, the balance sheet is out of accord with the books. We saw long ago that subtraction is practically never performed in

bookkeeping, and, therefore, we fall back on the device of increasing the other side. The desirable thing to do here, therefore, is to show on the credit side an account representing the probable loss from bad debts, and consider this a liability of the business. This is commonly called "Reserve for Bad Debts." Its appearance on the liability side of the balance sheet indicates that the business is responsible to make good this shrinkage, and that the amount has been subtracted from income to satisfy that responsibility. In a sense this liability is quite as much a subtraction from assets as is the liability to creditors from whom purchases have been made. No one objects to reporting the assets at the nominal figure, even though heavy liabilities are outstanding, if only the liabilities are properly shown on the balance sheet. So when it is realized that this reserve for bad debts is exactly similar in nature—so far as the responsibility of the business is concerned—to debts due outside creditors, this form of reporting probable shrinkage in claims against customers is unobjectionable. The only difficulty in this connection is that this is just what some persons are unable to realize. They are in danger of believing that this reserve for bad debts is simply profits set aside as an extra reserve fund for safety's sake, and that it probably will never be needed for the purpose designated. In such a case, obviously, the amount will be thought to be a sort of contingent surplus; whereas, as a matter of fact, this amount must be made good not out of the profits but out of product,—that is, there can be no profits until this amount has been covered. For this reason it would

be better to call this account "Allowance for Bad Debts." This suggests the fact that it represents a probable loss.

The difficulty just suggested with regard to reserve for bad debts is found almost universally in interpreting balance sheets wherever the one who reads the sheets is not quite familiar with the accounting policy of those who construct them. There is no uniformity of custom with regard to reserve accounts appearing as liabilities on balance sheets of corporations. Some corporations set aside annually from profits a sum which they entitle "Reserve for Depreciation." This is merely profits which are held back in order that the corporation may be on a secure footing, so that in case of inventions displacing machinery it may have a fund available for making good that loss; but such inventions are not expected, and such depreciation is not believed to be really necessary,—it is pure profit held for an improbable contingency. Other corporations, on the other hand, do not, with the progress of depreciation, reduce the book valuation of their property, but think they have made adequate provision for such depreciation by establishing among their liabilities a reserve account which measures the amount of depreciation of assets. That is, they have deliberately and intentionally, and they believe justifiably, left on their books as a valuation of assets a higher figure than is real, and have attempted to offset this overstatement of assets by establishing on the liability side of the accounts an item measuring the depreciation. To put this in another way, knowing, as they do, that a credit is an offset to a



debit, and that the balance between them is the actual figure of property, they leave their asset accounts at the original figures and credit a reserve account for the amount of depreciation. It is true that by combining the asset account and the reserve account one does produce a figure which is the exact value of the property; but unless one knows that this reserve account is merely a sum to be deducted from assets and is not, as it appears to be, a sum set aside out of profits, one is likely to be misled in one's judgment of the value of the property owned. Such a depreciation account or depreciation reserve must, like our reserve for bad debts just discussed, come out of product before there is any profit; whereas the other kind of reserve for depreciation suggested a moment ago—a mere labeling of profits to show that they are to be kept for a remote contingency—is an indication that the assets of the business are intact, and are by the amount of this account greater than the amount of capital subscribed. It is unfortunate that such differences of accounting methods prevail among corporations; the only conclusion we can draw is that one must know what is represented by any such reserve account before one is in a position to tell even from the company's own books what is the value of property on hand.

A so-called statement of resources and liabilities differs from a balance sheet in that it pretends only to show supposed facts in a simple way, regardless of the technicalities of bookkeeping. It will show, for instance, the *probable value* of accounts receivable, rather than book figures. This seems, at first thought, better than a balance sheet. The difficulty

is that it is based wholly on someone's judgment. It gives, moreover, no statement for the basis of that judgment. Most business men prefer their own judgments to somebody's else. They like to know what the books show. Then they can make allowances to suit themselves. When Accounts Receivable is shown on one side of the balance sheet and Allowance for Bad Debts on the other, the reader sees both the book figures and the judgment of the managers. A statement of resources and liabilities is a good thing to report, but it should supplement and not supplant the balance sheet. In any case, however, corporations should be required by law to indicate clearly whether depreciation and shrinkage have been subtracted from the cost of their property, or have been treated as a liability to be met out of earnings. The clearest form for showing this is a statement of resources and liabilities which shall contain not offsets, but an exact statement for each kind of property, claim, and liability. The publication of such a statement with the balance sheet gives very satisfactory information about a business.

It is often a great convenience to have a balance sheet so arranged that a comparison may be made at a glance with the sheet for the preceding year. The use of such a comparison will be discussed in the next chapter. Sometimes new accounts are opened each year for property subject to constant change. An account might be kept, for example, to contain additions to plant. These new accounts may then be reported on the balance sheet as distinctly belonging to the year in question, and may then be consolidated with the old accounts as they stood at

the beginning of the year. This arrangement makes it possible for one to see at a glance just what has happened to the important accounts in the course of the year's business. The result is produced quite as well, however, without the maintenance of separate accounts in the ledger, if only separate columns are provided on the balance sheet to indicate increases and decreases for the year just passed.

The balance sheet shown below presents all the desirable devices suggested in this chapter.



## [BALANCE SHEET, DEC. 31, 1910]

	In- crease	De- crease	Total	Grand Total	In- crease	De- crease	Total	Grand Total
<i>Capital Assets</i>								
Real Estate	2,000	....	64,000		....	....	50,000	
Plant and Machinery	1,000	....	50,000		....	....	100,000	
Investments	....	2,000	27,000	141,000	2,000	....	50,000	200,000
<i>Current Assets</i>								
Bills Receivable	....	5,000	27,000		5,460	....	25,000	
Customers	3,000	....	31,000		....	2,000	15,000	
Merchandise	4,000	....	57,000	115,000	....	....	2,000	
<i>Accrued Assets</i>								42,000
Rent	....	....	300		40	....	1,000	
Interest	....	....	250		....	....	1,800	
<i>Contingent Assets</i>				550				2,800
Discounted Notes	....	1,000		2,300				
Protested Notes (well secured)	....	....		310	....	1,000		2,300
<i>Additional Debits</i>								
Deficit on operations	2,500*	....		1,500	....	....		13,560
					....	....		
	12,500	8,000		260,660	7,500	3,000		260,660
	8,900				3,000			
	4,500				4,500			

\* As compared with \$1,000 operating surplus last year.

## CHAPTER XIV

### THE INTERPRETATION OF BALANCE SHEETS

Certain information can be had from a balance sheet standing independent of all other figures, but usually we are concerned in studying such a sheet to learn rather what is the course of things than what is the actual present situation. Many figures on a balance sheet show an outsider very little about the prosperity of the business as a whole; for many of these figures come, as we have seen, from a valuation put upon property, and unless we can for ourselves examine that property we are not in a position to judge as to the correctness of the sheet. Taking any one balance sheet, therefore, we are obliged usually to assume a certain degree of correctness in the figures, and the correctness which we assume will be determined largely by our judgment of the character of the men who have made the figures. When, on the other hand, we have two or more balance sheets, we can learn from them, if we assume that the same methods are employed in getting balances for the second sheet as for the first, what is the apparent tendency of the business. We can learn from such a comparison of balance sheets, for instance, whether the amount of cash is increasing, whether more money has been borrowed, whether

more property has been invested in the business, whether larger reserves are maintained for emergencies. Such comparisons are usually worth making, for they enable us to learn what sort of resources the business is accumulating and what sort of liabilities it is incurring or satisfying. For some lines of business the best sign of health is an increase of investment in permanent property, but for others it is an increase in assets readily convertible into cash.

Let us examine first the method of drawing conclusions about the general tendencies of a business, and then later analyze in some detail the different accounts on a balance sheet and see what light they throw on solvency. We have all along seen the necessity for a debit whenever there is a credit, and *vice versa*. It must be true, therefore, that for every expenditure some resource can be found, and that for every resource utilized some destination can be found; for otherwise we should have some unexplained fact on the books. Only three kinds of sources are available from which expenditures can be made, and only three kinds of explanations are possible for the disappearance of resources. The three sources from which expenditures can be made are earnings—which do not appear on the balance sheet except when a balance has been left over after the payment of dividends,—items appearing on the balance sheet at the beginning of the year, and new investment of capital or loans during the year; for since the operations of the business consist in turning over its property so that profit shall be earned, nothing has been available to spend except as it has



arisen from the conversion of old assets, from the use of new property entrusted to the business, or from revenue. Similarly, the three possible destinations of expenditure are the cost of conducting business, the payment of liabilities as they appeared on the balance sheet at the beginning of the year, and the creation of new assets. Yet all six of these sorts of items—three sorts of resource and three sorts of expenditure—have effect on the balance sheet; for four of them are exclusively balance-sheet items, and the revenue and expense items, if they do not (with the dividends) exactly cancel, must go from the income sheet to the balance sheet as surplus or deficit. So a comparison of balance sheets for two years will show, except for items which cancel each other (such as old bills receivable paid and new ones received, or earnings paid as dividends), a complete statement of operations for the year. If, for instance, the gross profits of the year have been \$200,000, the expenses \$150,000, and the dividends \$25,000, we have remaining \$25,000 of profits which ought to appear now not only as additional surplus on the balance sheet, but also somewhere among the net assets—either alone or producing a larger balance of net assets than were shown a year ago. Similarly, if our liabilities are smaller than a year ago, we have not fully explained the transactions of the year just passed unless we can point to the sources from which those liabilities were liquidated. This liquidation may have come from surplus profits, from some new investments of capital, or from the diversion of some old assets to the annulment of liability. It is true, of course, that though

Bills Receivable at the beginning of the year may have amounted to \$50,000 and still remain at \$50,000 at the end of the year, our transactions in Bills Receivable may have been several times that amount; but this is not a matter of consequence in drawing conclusions at the end of the year, for assuming the notes to be equally good, our situation is not altered by that fact. Such a comparison of balance sheets does not show the magnitude of business done; it merely shows the ultimate changes resulting from the year's operations. Our only concern is the decreases and increases in the balance of each account. The conversion of merchandise into notes, and of those notes into cash, and of that cash into more merchandise, is of no consequence, except so far as the amount of merchandise in the end is greater than that at the beginning, or so far as a profit derived from the exchange of old merchandise for new has gone into some other account. Let us now attempt from two balance sheets to learn what has gone on in the year which lies between them.

It is usually convenient for this purpose to arrange decreases and increases in a table of two columns. The first column may well be headed "Resources Utilized," and the second, "Disposition of Assets." The first will include the value of property which the business has converted into other forms, the amount obtained from outside, and the amount of profits which have remained after the payment of dividends—or it may include net profits if the figure of dividends is entered in the other column. The column headed "Disposition of Assets" will include the value of all property procured by

utilizing assets, the amount of debt liquidated, and the amount of net loss or deficit if the business has been unprofitable. It must be noted that this sheet for indicating operations of an earning period is not confined to dealings with the outside world, but is intended quite as much to show the shiftings of value from one department to another within the business. It ought to show in summary form the explanation of every change that has been made,—and every change has not only a cause but an effect. If, for instance, the cash on hand at the end of the year is less than that on hand at the beginning of the year, it is obvious that the business has utilized a certain part of this asset, and the amount of shrinkage should appear under the head of “Resources Utilized.” (The amount of cash expended was, of course, very much more than this, but since the cash balance has shrunk by only this sum, the other items offset one another and do not need to be explained here.) Question at once arises as to what became of that cash. We cannot, as a matter of fact, learn from an examination of the balance sheet just what this particular cash was devoted to; but we can tell what were the total changes in assets and liabilities, and we know that the total amount of resources utilized must equal the total amount of disposition of assets. We do not attempt, therefore, to label this cash as devoted to any particular purpose; but when our table is complete we shall see that this cash utilized, plus other resources utilized, will equal the total disposition shown by the other column.

We may now, after this illustration of the method to be applied in the construction of such a sheet, take



the principal items one by one and see how they should be treated. Let us use for practice the balance sheet given at the end of the preceding chapter (page 330). The first item on the assets side is Real Estate. We find that the comparison of this balance sheet with the preceding one shows an increase in real estate of \$2,000. This change in value indicates not where the business obtained a resource to use, but what it did with some resource which it either had at the beginning of the year or received during the year. It explains the expenditure of money. This \$2,000 increase in real estate, then, will be entered under the head of "disposition of assets." (See page 341.) If, on the other hand, the valuation of real estate had shrunk \$2,000, it would have been obvious that this shrinkage should appear as a resource utilized; for if the value on hand at the end of the year is not so much as it was at the beginning, the managers have either sold real estate or have consumed it in the conduct of the business; in either case they should have other assets to show for it—unless, indeed, the business has suffered loss, and even this is a "utilization of assets," though the unfortunate utilization of a good thing to produce a bad one.

The increase in plant and machinery measures also, of course, a disposition of assets, for the business had to *give something* for that increase.

The decrease in investments shows that these assets were utilized—that \$2,000 of the good of them has been exhausted. The amount is written in the column headed "utilization of resources."

Our next item is Bills Receivable. If the amount is increased at the end of the year, as compared with

the beginning, it is obvious that the business has accumulated certain property in this form, and although this is *now* a resource, it is *not* a resource which *has been utilized* during the year past; on the contrary, some other resource must have been utilized to secure for us such an increase in bills receivable—such as a sale of merchandise, or payment in cash. In any case we know that an increase in bills receivable has cost something, and since an increase explains for what we have made some disposition of assets, the amount should go into the disposition column. In the case in hand, however, Bills Receivable is found to have suffered a decrease; so it is obvious that some of the notes on hand at the beginning of the year either have been paid off, and have thus brought in other property, or have been written off as bad debts. Under the first supposition, this decrease explains the source from which other property has been obtained, and under the second it explains in part how the business happened to have a deficiency at the end of the year; under either supposition the decrease indicates a utilization during the year of resources existing a year ago. We write it in the first column.

The account for customers has increased \$3,000; that is, customers owe more than they did a year ago. Clearly they do not owe for nothing: the business must have given something (merchandise, of course) for this asset. The increase, therefore, measures the disposition of assets: it shows what has become of some of the *other* property entrusted to the business. The amount is therefore entered in the second column. If, on the other hand, this account had

shrunk, it would have shown that by this amount the assets in the business a year ago had been utilized in this year's operations.

Let us now, with these first cases in mind, get a comprehensive view of the theory of this tabulation. Novices at this sort of thing are usually confused at first because they forget what they are seeking. The purpose of this classification is to *explain* things *done in the year past*. We cannot from such a table see *what* went to any destination, for the thing is *no longer* connected with its origin: we know only *where* value is *today*. From the *where, today*, we wish to learn *changes* in the *year past*. A decrease in the amount of an asset today in comparison with that of a year ago shows that some of that resource has **been** utilized in the year's interval; an increase in an asset shows that during the year past some other asset must have been exchanged for this—i. e., this shows a disposition of assets; an increase in liabilities shows that a resource was utilized—for the business used its borrowing capacity; and a liability discharged shows that assets were given for payment, and therefore disposed of.

Our next item is Merchandise. Since this shows a larger figure than at the beginning of the year, it is obvious that the present inventory is larger than the old, and therefore that in the past *other* resources have been sacrificed to procure this present resource. The amount of increase should go, then, into the column headed "disposition of assets," for it explains for what purpose other assets were disposed of. If, on the other hand, the item of inventory showed a decrease, it would indicate that goods on



hand at the beginning of the year had been utilized; so the item should go into the first column.

If this still proves puzzling to the reader, he may find himself able to do his thinking more clearly if he changes the titles of his columns. If, instead of "utilization of resources," he thinks of "where got," he may see that a shrinkage of inventory should go into the first column; for it explains *where* the business got some of the resources that it utilized. Similarly, "where gone" may be substituted for "disposition of assets." Then it is apparent that an increase in inventory shows a "where gone" for the *year past*; it shows what has become of some of the assets entrusted to the business. So, also, increases of liabilities show "where got," and decreases show "where gone."

Returning now to our balance sheet, we see that a decrease in discounted notes indicates cancellation, or collections, therefore "resources utilized" or "where got." Since, however, it is exactly offset by a similar contingent item on the other side, we may as well omit it from our table.

The deficit on operation is clearly a "where gone." Indeed, the sole purpose of the deficit account is to show that some assets have disappeared, "gone," in operation. It is also a disposition of assets, for the business consumed assets in running at a loss.

Let us turn now to the other side of the balance sheet. The first changed item is Bonds. Since this has increased, the corporation has borrowed money, and a resource (borrowing power) has been utilized. So the item is written in the "where got" column.

If, on the other hand, the amount of outstanding bonds had decreased, it would have been evident that some assets had been devoted to this use, and the amount would have gone into the second column.

The increase in Bills Payable, similarly, shows that the company has utilized one of its sources of obtaining property from outside, and the amount should appear in the first column. If, on the other hand, the amount of bills payable had decreased, it would have shown that the company had paid off a certain portion of these debts, and since it could not have paid them off without the giving of value, this payment would have explained a disposition of assets, and the amount would have appeared in the second column.

The decrease in the account for creditors shows that debts have been paid, and therefore that assets have been disposed of. The amount shows "where gone."

The increase in accrued interest as a liability shows that the business has had the use of money that it has not yet paid for, and it should have assets to correspond—or the interest is a cause of the loss on operations, that is, the deficit. This increase shows, therefore, "where got," or utilization of resources. It is entered accordingly.

If an operating surplus had increased, earnings must have been in excess of dividends, and consequently the company must have had this resource as a means of raising necessary funds. The amount would have been extended, therefore, into the first column. If, on the other hand, surplus had been decreased, that fact would have meant that a part of

the assets had been disposed of in the payment of dividends or repairs or some other operating exigency, so that the undistributed profits remaining would have been smaller than at the beginning of the year, and the amount would have been entered under "where gone."

When all changes as shown by the comparison of balance sheets have been entered as has just been indicated, the amounts of the two columns should correspond exactly; for not more disposition can have been made of assets than has been warranted by the resources utilized. If there has been no error in calculation, the proof will be exact to a cent; for everything has been done by double entry.

## SUMMARY OF TRANSACTIONS FOR THE YEAR

UTILIZATION OF RESOURCES		DISPOSITION OF ASSETS	
Investments, decrease	\$ 2,000	Real estate, increase	\$ 2,000
Bills receivable, decrease	5,000	Plant and machinery, increase	1,000
Bonds, increase	2,000	Customers, increase	3,000
Bills payable, increase	5,460	Merchandise, increase	4,000
Interest accrued, increase	40	Deficit, increase	2,500
		Creditors, decrease	2,000
	<u>\$14,500</u>		<u>\$14,500</u>

The real purpose of this statement is not so much to get figures showing the changes in individual accounts as to present in definite form a summary which shall enable one to judge whether the property of the business is this year in a more desirable shape than it was last year. If current liabilities have increased \$20,000, and current assets have decreased \$10,000, the situation is not so favorable as it was a year ago, unless at that time available assets



were lying idle. It is not enough, however, to know merely that total current assets and total current liabilities bear an improved relation to each other. If a year ago a small stock of goods was on hand, and this year a large stock of goods is accompanied by a limited sum in cash, the business is not in quite such good shape as it was a year ago—unless, indeed, it is growing faster than goods can be secured and an increased stock is necessary. If a year ago it had a large amount of cash and few notes and accounts receivable, but this year has a small amount of cash and many notes and accounts receivable, the appearance is unfavorable; for it seems to indicate poor collections. One must realize, however, that a large increase of collectible items may come from a large increase of business and may accompany a shrinkage of cash; for the same percentage of collections would show an increase of unpaid bills, and increased purchases may explain the decrease in cash. If, on the other hand, sales have increased only ten per cent., but bills receivable and accounts receivable have increased thirty per cent., it is obvious that sales are made to a class of customers less able or less willing to pay bills promptly, and, therefore, the business is taking the risk of heavy loss on bad debts. Generally speaking, merchandise is a better asset than such debts; though, of course, since profit is made generally from the sale of merchandise, the desirable thing is to convert merchandise into a proper number of good debts; but an increase of these debts out of relation to the amount of sales and to the amount of merchandise on hand is an indication of weakness. If a

year ago the business had a small investment in real estate, plant and machinery, with few bills payable and accounts payable, but this year has a very large investment in such assets and many bills payable and accounts payable, it is obvious that those liabilities have been incurred in the acquisition of those assets; and usually this would be an unfavorable sign, for it means an accumulation of liabilities maturing soon, and only fixed assets, which might not sell readily, as a means of payment. If, on the other hand, it were known that money could be borrowed at any time on long terms, through the issue of bonds, the situation would not be dangerous. It would be known in that case that the bills payable and accounts payable were merely temporary and that soon the balance sheet would show a disappearance of those items and a substitution of capital liabilities in the form of funded debt; and a funded debt payable in the future is naturally invested in such permanent things as real estate, plant and machinery. It is impossible to lay down any hard and fast rules in regard to the proper tendency of items in a balance sheet. We must know the line of business before we can say whether things are going as they ought or not; but it is always desirable in passing judgment on the solvency of a business to make such an analysis as that here suggested in order that we may have at a glance a summary explanation of important changes. We do wish to know why this or that important change occurred and what other items were affected.

It is worth while to dwell upon some specific items in connection with the balance sheet and see

what a person attempting to determine solvency should consider in relation to them. Attention has already been called to the need of allowance for depreciation in connection with Real Estate, Plant and Machinery, Investments, and Merchandise. Except for Merchandise, nothing more needs to be said about these accounts. As was suggested in the chapter on profit, the normal price of merchandise is not always the billed price, but that price less the largest discount offered. So one must realize in considering an inventory that the basis should be never more than the net price, or, if the goods have fallen in market value, not even so much as that. It is well for anyone attempting to interpret a balance sheet to note the relation between the present inventory of merchandise and that of other years. If he finds that merchandise valuation is constantly increasing, but sales are steady, decreasing, or increasing in a slower ratio than the inventory, he has reason to believe that the inventory is padded—either deliberately, or because of neglect to allow for unsalable goods. If a manager were always to count as a good asset merchandise purchased long ago, and never recognize the fact that certain merchandise has, with the lapse of time, become unsalable, the greater his store of unsalable goods, the bigger his merchandise inventory. If this thing were to go on for a series of years, it might be found in the end that an inventory of one hundred thousand dollars might represent goods which on the market were worth only ten thousand dollars.

It should be realized always that both bills receivable and the accounts of customers are likely



to prove worth less than the book value,—how much less will depend on the discretion used in giving credits. From some points of view, bills receivable are preferable to book accounts, for a bill receivable at least acknowledges the debt; since, however, under some conditions goods sold and not paid for, even by a note, may be replevined, certain book accounts are better than bills receivable. Judgment in each case must be determined by circumstances. It should be realized also that customers' accounts are likely to represent claims for a considerably smaller sum than the amount recorded on the books. If discounts are allowed for early payment of bills, the customers' accounts are subject to these discounts and only if none of the discounts offered are accepted will the claims yield their full face. One must always realize, therefore, that allowance for discounts is as important as allowance for bad debts. This, however, is not, as is allowance for bad debts, a presumable loss to the business, but one of its bookkeeping debits due to the fact that bills have been booked at more than the natural price.

On the other side of the balance sheet only one allowance needs to be made; for liabilities, unlike resources, are bound to be met in full unless the business goes into bankruptcy. The single exception is discounts offered for early payments to creditors. If the discounts presumably to be taken on sums due to creditors equal the discounts presumably to be taken by customers, the items do not need to appear on the balance sheet—unless to show that they have been considered. This statement is not inconsistent with the theory of discounts previously

stated. We are here concerned not with profits, but with assets and liabilities; and though it is true that discounts neglected by our customers do not protect us from loss on discounts which we neglect (as shown on page 288), discounts to be taken by us reduce our liabilities in the same degree (dollar for dollar) that discounts to be taken by our customers reduce our assets. If one sort of discount is likely to be larger than the other, both should appear.

It is well in this connection, though the items do not appear on the balance sheet, to compare the amounts of discount neglected (or the amounts taken, if only those are recorded) for the last year with those for preceding years and with purchases and sales. It is evident that when rates of discount offered are unchanged, Collected Discounts decreasing (or allowed discounts increasing) on goods sold is a good sign; for though it means less direct profit from this source, it indicates an improvement in the general business standing of customers. A conservative manager would rather have low profits on sales to sound customers than larger apparent profits on sales to questionable customers. Theoretically no discounts on purchases should ever be neglected; but if the firm is poor and has little credit, no escape may be found. In such a case Neglected Discounts decreasing, or increasing more slowly than purchases. shows an improving conditio

## CHAPTER XV

### THE DETERMINATION OF COSTS

All our discussion up to this point has been based on the assumption that by general accounting principles we can know or can easily calculate the amount of debit or credit to any account; in many cases, however, a cost is so well mixed with other costs that elaborate records are necessary to distinguish which portion of the total cost belongs properly to one item and which to the others. In manufacturing it is not usual to buy raw materials for one particular product and to put labor at work in producing that single product; it is customary to purchase supplies in large quantities, and to employ laborers either on day work or on piece work so that the debit to Wages is to be divided ultimately among many articles. The natural entries, therefore, are for the amount of material consumed and for the wages involved in product as a whole. Though sometimes distribution to separate products may be made by a mere division of the total cost among the number of items produced, various types of articles are commonly produced under conditions involving differing amounts of raw material and differing amounts for wages, and for each of these careful record must be kept so that it will be possible when the work is completed to know what has been



the cost of that product both for raw material and for labor. These two elements of cost are commonly called "prime cost," for they are direct and involve no complex distribution of joint cost over various articles. Above these, however, are many additional costs which cannot be found individually for each item of product. The total expense for insurance, rent, repairs, interest on capital, and various items of this sort, is for the joint benefit of many products, and must be distributed at some time over the total amount of product, so that each article shall bear its share of the total cost of these items. If these last costs, which are usually called "overhead costs" or "burden," are not distributed over the total product, or at least if the prices charged for the product do not include an allowance for these costs, the business is necessarily run at a loss. It is desirable that these overhead costs shall be charged to the individual items of product in exactly the right proportion, for if not the business may be selling some goods at less than their actual cost to manufacture. This suggests the necessity for some sort of cost accounting in all manufacturing and other lines of business where many items of product or service are rendered at costs which do not readily attach themselves to each individual item of result.

The purposes of cost accounting are three: (1) to guide the managers in determining what is the proper price to be put on each article of product; (2) to enable the managers to learn whether any part of their product is more or less profitable than other parts,—for sometimes, owing to peculiar conditions, a business cannot afford to make certain articles at

the same price as its competitors, and had therefore better give up such manufacture, or may have such advantage over competitors in some articles that it may well concentrate all its activities on these alone; (3) to indicate economies, for if cost accounting is accurate it makes possible comparisons between one period and another for most elements in the manufacturing process and shows whether the maximum yield is obtained, not only with raw material consumed and with labor, but with the general facilities which cause overhead expense.

The importance of a proper distribution of overhead charges may be best illustrated, perhaps, by a simple case of manufacture where one process yields several kinds of product. If we are to know not only what is the proper price to make on our goods, but what is the most profitable product, and what is the greatest economy of expenditure, we must know what is the best disposition to make of each part of the joint product. In a saw-mill one stroke of the saw produces not only a board, but a slab, or an edging. Taking the log as a whole, perhaps a dozen trips of the saw-carriage produce several boards, two slabs, and many edgings. Under some conditions, it may be cheaper to use the edgings and the slabs in the engine-room as fuel than to attempt to sell them on the market. In such a case the only salable product is boards. If, on the other hand, there is a good market for edgings, it may be worth while to bundle them and ship them; but it may not be worth while to attempt to sell the slabs. Finally, it may be worth while to sell boards, edgings, and slabs. Before one can tell whether one should sell only boards,

or boards and edgings, or all three products, one must know not only what one can get for edgings and slabs, but what will be the cost of getting them on the market. For each one of these items of product there is one cost which is peculiar to it and needs to be met only in case that product is to be sold. If, for instance, edgings and slabs are to be burned, they do not need to be sorted or carefully piled or measured, and they are worth something as fuel. They will go directly from the saw-table into a heap from which they will be passed to the fire box. To sell edgings, however, requires at least the cost of sorting them from the slabs, and usually of cutting them into firewood lengths and bundling them. To sell the slabs requires only that they shall be cut into firewood lengths and separately piled. Only when the cost of separating, piling, and bundling is known can the manager know whether he ought to sell these by-products rather than consume them. All cost accounting, to serve its purpose, then, must distinguish as far as possible every cost which is peculiar to any product, and must distinguish the return from each kind of product; then a comparison may be made between return and cost for each kind of product, and the manager can learn not only the absolute but the comparative profitability of that enterprise,—that is, whether he had better abandon that department of his product and concentrate his whole energy on some other department that yields a higher profit.

Let us turn first to the method of learning prime costs—that is, costs which are peculiar to any one line of product and are not confused with any joint



elements. The common practice is to require all work done in a shop to be based on written orders from someone in authority. As soon as production is ready to begin, a written order is made out in the central office to indicate what materials are to be used in its production—or at least what materials are to be turned over to the workman for his use. Such an order is sent to the storehouse, and when the goods are issued by the storekeeper the order is receipted by the workman. On the return of the order to the office, the books can show exactly what materials have been issued, and after allowance has been made for material returned to the storehouse, can indicate by a calculation based on the purchase price of the goods exactly what is the material element in the cost of the product. Similarly, for all work to be done, an order is issued to each workman, and when his work has been completed that order is signed by the foreman accepting the work and this authorizes the payment of wages. This signed order furnishes information to the office as to the labor-cost of this product.

Let us now examine this in somewhat more detail. A carefully worked-out scheme of accounting will provide that all stores or supplies purchased shall be entered in a stores ledger, so arranged that each kind of article kept in the storeroom has an account of its own, which may be debited for all stores entering the storehouse and credited for all stores issued. The storekeeper is held responsible for all goods which he receives, and must give a receipt for them, and he receives a receipt for all goods which he issues. This makes it possible at all

times to know what stores are on hand and to provide against the waste of material. Each general order may, of course, comprise many sub-orders, or job orders, for if the office requires a case of shoes to be made, sub-orders are needed for every kind of material, such as sole leather, counters, vamps, uppers, etc., and labor orders for cutting, stitching, finishing, treeing, etc. The labor items occurring on job order slips are carried not only to the cost books, which are arranged to show the cost of each order or group of orders, but are carried also to the time book so as to credit each workman for his wages. The cost book contains a separate page or series of pages for each general manufacturing order, and all sub-orders or job orders (for detailed portions of work on the general order) are entered under the proper heads so that when a job is completed the total cost of that job, both for material and for labor, is found by simple addition. This may serve, roughly, as an outline of the method of accounting for prime costs. The details will differ largely in different factories because of differing conditions, and it is impossible in a book of this general type to cover the subject in its various complex forms.

We may now pass to the general subject of the distribution of burden, or overhead cost. It is obvious that so far as we may attach all overhead costs to a single element, we may keep the accounting simple; if, for example, we should find that all overhead costs bear some definite relation to wages, we could distribute those overhead costs on the basis of the wages expense on each job. This, indeed, is a common method of distributing burden. It has, how-

ever, one fundamental objection. It charges as much overhead cost to a job requiring \$4 worth of labor employed in hand cutting of uppers in a shoe shop, for example, as to one employing \$4 worth of labor to run a high cost machine which must be insured and involves taxes, repairs, depreciation, and much power-cost. Such distribution of burden is obviously unfair, for the most important overhead costs in connection with the cutting of uppers by hand are those connected with the housing of the workman and his material—that is, rent, heat, light—and the administrative costs of directing his labor, but besides these the machine involves interest, depreciation, repairs, insurance, and taxes. If we were to charge goods produced by hand labor with the same proportion of overhead expense that we charge to goods produced largely with high-cost machinery, we should find probably that we could not sell our hand-made goods at the market price, and that the demand for our machine-made goods would be very heavy because of the low price; and yet our business would be losing money, for our distribution of costs would be on the assumption that the hand-made goods would bear their share of the overhead costs, and since those hand-made goods would not be sold, they would not make up the deficiency in burden borne by the machine-made goods. The only useful accounting, then, is to see that the overhead costs are borne by the particular product involved in their use.

Another device commonly adopted for the distribution of overhead costs is a proportion based not on wages, but on hours of labor. This is obviously



less satisfactory than the distribution based on wages; for it would carry as much overhead cost to the product of the labor of a boy working by hand for seventy-five cents a day as it would carry to the product of the labor of a skilled workman getting six dollars a day and working with a very high-cost machine. This is in reality the height of absurdity, and unless practically all work is done under the same conditions, both of wages and of the utilization of expensive equipment, one might almost as well not attempt to distribute overhead cost at all as to distribute it all on this basis. If, however, the benefit of any particular portion of burden is clearly shared by any product in the ratio of labor, this basis may be used for that portion, but the desirable thing is to keep as low as possible the number of bases; then the accounting is simple.

The scientific method, at least for all shops where many types of goods are produced under varying conditions, is to take into account the several elements involved in the production of every article—and this, as will be seen later, is not nearly so serious a task as might at first thought appear,—and group them so that those assignable on the same basis may be treated in a lump sum. The general overhead costs may be grouped roughly as follows: first, administration and superintendence,—that is, the cost of running the office with its accounts and records, and the cost of directing the labor into proper channels so that the maximum product is got with the minimum of expenditure; second, the costs for the buildings which house the workmen, the supplies, and the machines; third, the costs connected with the

machinery itself; and, finally, the costs of power. A large portion of these expenses, it will be noted, attach themselves directly to machinery, for the amount of space required is determined largely by the size and character of the machinery, the amount of interest and insurance and taxes is determined by the cost of the machines plus the cost of the buildings (which can be distributed in large part on the basis of machinery), and the amount of power required is determined directly by the machinery. If, then, we attach these items to machinery and distribute them on the basis of each machine's proportion of that cost, so that each manufacturing order will be debited for these costs on the basis of its use of the machine, we shall have very few overhead costs remaining to distribute on any other basis. Let us attempt, therefore, to attach as many of these overhead costs as we may to the machines utilized in manufacturing processes.

It is true, of course, that the buildings are to protect workmen as well as to protect machines, but, where the work is done by machinery, for housing purposes the workman and the machine form a unit, and, consequently, we may simplify our task by considering that space occupancy is a machine expense (allowing, of course, room enough for the workmen to get about and utilize the machines). Let us first, then, find all the costs connected with space and distribute it to the machines in proportion to their space occupancy. The first cost in connection with space is the rent, and that is cost to the manufacturing end of the business, even though the building is owned by the proprietors; for they as owners are

entitled to collect rent from the manufacturing processes quite as much as if the building were leased to outsiders. If the product does not compensate the business for the use of its real estate, the business is not profitable, and prices must be fixed at such a point that the product will give that compensation. Starting, then, with ground rent, we add interest on the cost of the buildings, depreciation which is inevitable with the lapse of time (at least, on the buildings themselves, even though the ground rent may be actually rising), repairs which are necessary to keep the buildings in an efficient state, insurance against loss by fire, and taxes. These together comprise the total expense to the business for protection against exposure of its machinery and of the men to run it; and this expenditure must be borne by the product of the machines in proportion to the amount of space required by these machines. If any machine, then, occupies one one-hundredth of the total floor space of the shop, its share of floor-space cost will be one one-hundredth of the total figure which we have just obtained. We must next add the cost of heating; this, however, should be based not so much on floor space as on cubic capacity. Lighting, on the other hand, need not necessarily be on the basis of space at all, for some large machines may be operated with very little lighting; the basis here, therefore, will be the number of lights required for this machine, as compared with the total number of lights required for all machines.

The second group of costs attached to machinery comprises those connected with the mere possession of the machine itself, and includes interest on the



cost, depreciation due to obsolescence, repairs required to keep it in condition, insurance, and taxes. These costs, it will be observed, continue even though the machine is not in actual use; though the repairs included here comprise only the slight items of periodic care to protect it from rust and dust.

The next group of machine costs are those connected with the operation of a machine when running. These include the consumption of oil, waste, and other supplies, depreciation due to wear, repairs necessitated by the giving out of small parts, and the cost of the small tools and other equipment attached to the machine for its manipulation. The actual cost in connection with these tools, however, is not the original cost of the tools themselves, but simply interest, depreciation, repairs, insurance, and taxes, on their value. The last item in this group is superintendence; though this item has no direct connection with the cost of the machine itself or its operation, we are endeavoring to attach to machinery as many as possible of the overhead costs, and if several machines are run under one superintendent, and they require equal shares of his care, we may well distribute his wages among the orders on the basis of their use of machines. If, on the other hand, various machines in any room require different amounts of attention from him, it would be difficult, probably, to say what share belongs to each, and this cost of superintendence would be introduced elsewhere.

The last group is the costs connected with power. These, it must be noted, include not merely the cost of fuel and of employees to take care of the engine,

but many incidental costs connected with the power establishment. Among these would be the space of the power plant—either for the portion of the shop occupied by the engine room, or the space cost of a separate building. If there is a separate building, the five elements which we have previously seen in other connections (interest, depreciation, repairs, insurance, and taxes) must be figured on the whole power establishment. Next we have the same five elements on the power plant itself, that is, the boilers, engines, etc., including shafting, belting, pulleys, and other transmission elements not already included elsewhere. Finally, we should have, besides the fuel and the wages of engineer and fireman, costs for water, oil, waste, etc. When we have determined the full power cost of the whole establishment, the amount chargeable to each machine is determined by the ratio of its horse-power consumption to the total horse-power consumption of the establishment.

If we now add all these costs together—that is, the four groups of space cost, machine cost, use cost, and power cost—we have the total running cost per year for our machine. If this is now divided by the number of working hours in a year—making allowance, of course, for the fact that no machine can run all the time, but suffers some loss of time because of the need of repairs, cleaning, etc.,—we shall have what is commonly called the “machine hour rate.” It is obvious that every job requiring the use of any machine for one hour is costing more than its prime cost (cost of material and labor) by the amount of this machine hour rate, for the total cost of the ma-

chine for the year divided by the number of working hours has given us this hour cost for that machine. The accounting for this additional cost to each order based on this utilization of machinery is very simple, for if on all order slips sent in by workmen an entry is made showing the number of the machine and the number of hours it was utilized, the office can readily enter on the cost book the overhead charge which should be added to the prime cost; this is found by multiplying the hour rate by the number of hours.

We have now distributed a large portion of the total overhead cost. We have remaining chiefly the items of administration, superintendence, some additional costs connected with stores, and space-cost for parts of the factory which do not utilize machinery. So far as in any part of the shop all work is done by hand, space-cost for that portion may be distributed on the basis of labor-time, for a man working at six dollars a day takes as much space, heat, and light, usually, as a boy working at seventy-five cents a day. The full remaining space-cost of the establishment may be provided for if the space occupied by stores, by superintendence, and by the administration, is charged to each of these departments. Stores must be charged for freight and cartage, and for interest, depreciation, taxes and insurance on average stores kept in stock; the total gives an additional sum which, when converted into a percentage, may be added for each order to the amount already charged for stores. Then the administration expenses, including a share of space cost, may be distributed over all the product on the basis of a fixed proportion of administrative costs to other costs. If in the



experience of this shop it is found that of the total manufacturing costs, including not only prime cost and overhead cost but administration, ninety per cent. is for combined prime cost and burden, and ten per cent. for administration, to each order one-ninth of the cost shown on the cost book for items already figured should be added for administration. This process will absorb all the joint or overhead cost for the factory and leave each order charged with approximately its proper proportion—that is, as nearly so as it is possible for any estimates and calculations to provide.

It should be noted that, though a good deal of this sounds like mere estimating, most of it is based on known facts. We do not, for instance, know what is the actual depreciation of any machine in any period, but that is a thing which can never be known under any circumstances, and yet some provision must be made; we do not know what will be the actual annual cost for repairs, but we do know after a business has been running a few years what is the actual cost for repairs as an average, and we have no reason to suppose that the amount will be particularly higher or lower during any period; we cannot know what is the actual coal consumption during the hours any particular job is on a machine, but we do know from past experience what is the normal ratio of fuel to power, and may use that with sufficient accuracy for the present purpose; we do not know what is the actual administrative cost while this order is going through the shop, but if we know what has been in the past the ratio of administrative cost to manufacturing cost, we may, unless notable

changes have occurred, use that ratio with a pretty close approximation to truth for any particular period. Of course, since the purpose of careful cost accounting is to eliminate as much as possible all waste, it is constantly hoped that the costs this year will in all particulars be lower than in previous years, and, therefore, it is usually safe to use as a basis the figures for earlier years, for the present year's variation is likely to be on the safe side. All the bases may be revised, moreover, as often as the managers think worth while; and the accounting furnishes information for the revisions.

The preceding discussion does not attempt to cover all the desirable distributions of overhead costs, of course, for the subject is so full of detail that nothing less than a large volume would cover all the points which might arise even in one factory. Nothing is attempted here more than a general outline of the plan. Many employers scoff at such a system, for they say that, since a large part of this determination of costs is at best only an estimate, it is well enough to let it all go as an estimate and satisfy oneself with the absolute results which, at the end of the year, show only whether one has made a profit or a loss. The best answer to that criticism is the fact that in many large shops the kind of plan outlined above is actually practiced, and has been practiced for many years, and that the managers are satisfied that, though the cost of accounting in such detail is heavy, it is far more than offset by the greater precision in making prices, in directing the manager as to what particular lines of work he had best push, and in preventing waste. It is true also

that in many establishments cost accounting systems have been attempted with great detail, and have been thrown out by the managers after a short trial because apparently not profitable; but in many such cases it has been found on investigation that the system was not scientifically devised in the first place, and that the men left in charge, having no sympathy with it, made no effort to give it a fair trial, or were incompetent to carry out the scheme with anything approaching good judgment.

It should be noted that although the original calculations necessary to apportion overhead costs on the plan outlined above are laborious, when they have once been carried out the system is more or less automatic. When, for instance, the space cost of the whole establishment has been found, it does not need to be found again until some change has arisen in the conditions; and the space cost for each particular machine is simply a certain proportion of the whole. Similarly, when the total power cost for the establishment has been found, that total is used for all machines by a simple calculation of proportion.

One circumstance is not provided for in the scheme outlined above. Our calculation has been based on the assumption that all machines are run full time. In many shops certain equipment is necessary in spite of the fact that it is in demand only a few hours a day. Obviously some provision must be made for that sort of thing, for if overhead charges are distributed on the basis of full time for all machines, and then some machines are part of the time idle, the product will not absorb all the overhead costs at the end of the year. It is desirable, there-



fore, to keep a record of the actual running time of each machine, and then in calculating the charges to recognize the fact that the orders utilizing that machine must pay for the idle time. This is a principle recognized practically everywhere. Proprietors of public halls, for instance, do not determine their charge for an evening on the basis of three or four hours out of a possible 8,760 hours per year; for such a hall is used commonly only two or three hundred times a year; if those who use it do not pay their proportion of this idle time, the proprietors do not receive adequate compensation for the use of their capital and sufficient in addition to cover depreciation and other expenses.

In connection with idle time we find that careful record is demanded by the same three considerations that make any cost accounting imperative. Only when idle time is known can prices be fixed properly as between various articles of product; only then can one learn how to provide for the elimination of waste in the extremely important matter of the utilization of equipment; only then can one know whether it is more profitable to do all parts of manufacturing work in one's own shop or to send out a part of the work to be done elsewhere—or even to abandon some kinds of work entirely.

The determination of prices is likely to be affected differently according to the circumstances under which the idle time is suffered. If the shop is in competition with other shops much larger or turning out such a kind of product that all their machinery is used for full time, it cannot compete in low prices unless allowance is made for the part-time use of its

machines and the loss is taken out of profits. This may be illustrated roughly by supposing that in the shop in question, since some drilling is now and then necessary, a drill must be maintained in constant running order, but since the amount of drilling is comparatively small, one drill working a quarter of the time can do all the work. If this shop is in competition with another which has a large patronage, so large that the work turned out by the other machines requires enough drilling to keep one drill constantly occupied, the prices prevailing in that community are determined by the shop running its drill full time; and the shop having only partial use for its drill must, if competition is keen, take the loss for idle time out of its profits. If, on the other hand, the work in this community requiring drilling is small, so small that one drill can do all the work for the community in a quarter of its time, the minimum demand of the community requires the maintenance of a drill, and that cost may be charged to the community in the prices set on the work done in that shop. Even if it were known that no competition is to be suffered, and that prices can be made always to include the cost of idle time for work requiring any drilling, it would still be worth while to keep separate record of the actual amount of idle time on that machine; for only so would the manager know whether conditions were improving with regard to the use of that machine or not; and only so would he know whether his estimate for idle time used in calculations for the work of this year needed revision in making his calculations for a subsequent year.

It is desirable, therefore, that for each machine a record shall show the work done each year.

The burden to be borne by any order in connection with the utilization of machinery is not necessarily the same for all hours, even though there be no idle time. Some work requires a considerable preparation of the machine, such as adjustments and fitting special tools. Obviously, the cost for two hours spent in adjusting a machine to a job is less than for two hours' actual work on that job; for the two hours of preparation involve only two of the four groups of cost discussed in an earlier paragraph,—that is, space cost and machine cost. The cost is as great for space, heat, light, insurance, taxes, interest, and obsolescence, for two hours setting up a machine as for two hours while the machine is running; but of machine-use cost and power cost, setting-up involves nothing. It is necessary, therefore, in order to make complete records, to distinguish between what may be called "occupied time" and "running time." What we have heretofore treated as one machine rate may well be split into two rates. If we add together the space cost and the machine cost for a year for any machine and divide by the number of working hours, we get what may be called a "minimum rate,"—that is, what it costs the shop each hour to maintain that machine ready for use, whether running or not. If we add together the machine-use cost and the power cost—that is, the second and third groups of costs connected with each machine—and divide by the number of working hours in the year, we get what may be called an "additional rate,"—that is, what must be charged to each



order for the actual extra cost of running the machine. If a machine were occupied all the time, the charge to each order would be merely the minimum rate multiplied by the number of hours the job was at the machine, plus the additional rate multiplied by the number of hours the machine was actually running at that job. The same result would be obtained, of course, if we were to multiply the running hours by the sum of the additional rate and the minimum rate, and were to add to this the minimum rate multiplied by the number of hours the job was occupying the machine in preparation.

The moment we introduce idle time, however, we realize that each job must bear its proportion of all the necessary idle time on machines required by that job. If a machine is normally running but half time, just as a public hall may be occupied but half time, the jobs requiring the use of that machine must pay for twice the number of hours actually engaging the machine,—else the full space cost and machine cost of the machine will not be compensated by its product. It is clear, however, that for idle time we need figure only what we have called the “minimum rate,” for no machine-use cost or power cost is incurred by idle machinery. To get the desired figures we have only to require that on the order slip or time slip handed in by each workman, and showing what machine he used, he shall show for how much of that time the machine was actually running. In the accounting department the occupied time is multiplied by the minimum rate, and the running time by the additional rate. The total is the earnings of that machine for that specified time, and is the

correct charge to that order on this score. If, however, this machine, taking the year through, is occupied half time, the order should be charged an additional sum equal to the minimum rate charged; for this order must pay its share of idle time, which, in this case, is just the same as the occupied time. If the machine is occupied three-fourths of the time, the charge to the order for idle time is one-third the charge for minimum rates (for since one-third as much time is idle as is occupied, one-third must be added to absorb the full cost of maintaining the machine). These amounts are added on the cost book to the other costs as shown from other sources—that is, the prime costs of material and stores, and the other elements of burden comprising administrative costs, secondary stores costs, administration, etc. The result is the total manufacturing cost for that article.

The figures of the order slips handed in by workmen must be carried also to another record. Since it is desirable to know the actual accomplishment of every machine, a ledger is commonly kept for accounts with all machines. On this ledger are entered the occupied hours, the running hours, and the idle time. In this case, however, the idle time will not be an estimate but the actual idleness. It will be the difference between the occupied hours and the possible hours. As a matter of fact, however, the actual idleness does not need to be computed each day, for, of course, the number of occupied hours at the end of any month subtracted from the total number of shop hours will give the idle hours; and hence this item need be entered only as

convenient intervals. At the end of the year this machine ledger account makes it possible to learn whether the estimate of idleness was erroneous, whether conditions within the shop have improved so far as to prove good management, whether it is desirable that the machine shall be abandoned and its work done elsewhere.

We have now completed our study of manufacturing costs. Many items besides those suggested here may prove in any particular factory to be necessary in a cost calculation. It is impossible to construct any scheme which shall fit all factories. All we can do here is to consider the principles.

In the main, the method of distributing selling costs is similar to that for distributing the burden in manufacturing. An obvious element of burden in selling is space cost. This will be determined by the same method as for manufacturing costs—that is, chargeable to the selling department is a certain proportion of the total space occupied by the establishment, of interest on the investment in buildings, of insurance, of taxes, of depreciation and repairs on buildings, of lighting, and of heating. A certain part of the general administrative expense of the business must be borne by the selling department. The wages of persons employed exclusively in that department, with advertising costs, costs of stationery, postage, commissions, traveling expenses, etc., can be known directly and should be charged to that department. Most selling costs are capable of determination by percentages, and if it is found that normally selling cost is fifteen per cent. of manufacturing cost, that percentage should be added to the cost



of each order—unless peculiar circumstances in connection with that order require a larger sum or show that the order should be relieved of a portion of the general charge. If, for instance, a special advertising campaign has been conducted for a single article, most of the cost of that campaign should be charged to the sales of that article—but not necessarily all of it, for the general reputation of the firm may have been improved so much that other articles share in the benefit. So far as any work is done for the use of the shop itself, and, therefore, involves no selling expense, the cost should be deducted from manufacturing costs before the percentage for selling expenses is figured.

Since it is convenient to have a reference list of costs for all articles, it is well to have for each article of product a book or a series of cards which shall contain a summary of all costs as shown by past experience. This would show, normally, in summary form, something like the following table:

Stores (from order slips)	\$ 6.27
Stores costs (percentage of above)	.12
Wages (from order slips)	3.27
Superintendence (percentage of above)	.24
Minimum rates (from order slips)	.33
Idle time (ratio to above)	.66
Additional rates (from order slips)	.85
Department and general expenses (percentage of total above)	.50
Total producing cost	12.24
Selling cost special	.30
Selling cost general (percentage of producing cost)	1.22
Total cost	13.76

This all sounds very complicated, but the book-keeping is comparatively simple, though, of course, a good deal of labor is required in handling the de-

tails. We saw that the first element of burden is space cost. If a ledger account is kept for space cost, it is a simple matter at the close of the year to transfer to that account all expenses which have gone to make up that space cost, such, for instance, as rent, lighting, heating, building repairs, depreciation, taxes, and insurance, so far as those items relate to buildings and ground space occupied. Then Space Cost may be credited by the distribution of this total to accounts representing the various departments of the business concerned, such as Stores, Minimum Rates (which is ultimately to be closed into Manufacturing), Administration, Power, and Selling. These credits to Space Cost will always absorb the debits and leave Space Cost with no balance. Similarly, to Minimum Rates should be charged the elements connected with the cost of machinery (interest, insurance, taxes, depreciation, possibly superintendence), and its share of space cost, as already indicated. These debits to Minimum Rates will then be offset in part by a credit to Idle Time; for since we have charged Minimum Rates with the total costs of burden connected with the equipment of machinery, and Idle Time is responsible for a part of that cost, it should relieve Minimum Rates of a part of that burden, and should be debited for the actual cost of idleness as shown by the machine ledger (number of hours idleness for each machine multiplied by the minimum rate for that machine). Since Idle Time is thus debited, by Minimum Rates, for its share of space cost and machine cost, it must also be credited for the amount charged to orders—that is, by a credit to Manufac-

turing for the idle time on the cost book. If orders prove to have been charged with a smaller sum for idle time than the cost warrants as already indicated, Idle Time will have a debit balance and show a loss; but if more, as will be the case if idle time is being eliminated through better management or through improved conditions, it will show a credit balance, and, therefore, a gain. The only purpose of keeping this idle time in an account by itself is to learn whether the amounts charged to orders are actually more or less than the final cost of such time. Minimum Rates is next to be credited for the amount entered on the cost book as minimum rates and charged to manufacturing orders; for the things debited to this account, as indicated above, have produced that value charged to orders. The corresponding debit is to Manufacturing. Power, in turn, is debited for wages, fuel, depreciation, taxes, insurance, space cost, stores, etc., and is credited by Additional Rates. Similarly, Additional Rates is charged with superintendence, machine repairs, oil, power, etc., and it is credited by a transfer to Manufacturing. All these manufacturing expenses in time reach the manufacturing account, and the final debits to Manufacturing, for pay roll, stores, minimum rates, additional rates, idle time, administration, etc., show the total manufacturing costs.

It is notable that all these accounts are now balanced except Manufacturing, which contains in itself a summary of all the others. The purpose of keeping these others is simply to show the amount on each score and make possible a comparison with other years.



A manufacturing account under this system, though strictly nominal, for it represents expenses, ought practically always to be in one sense real, for it should represent the value of property manufactured. If an inventory were to be taken of unfinished goods in the shop, and the basis of valuation were the cost so far incurred, it should agree with the balance of the manufacturing account as shown. It is desirable to keep up the adequacy of this inventory wherever possible. Whenever transfers are made from the shop to the stock room (that is, the room in which finished goods are kept), Stock is debited for the goods at the exact figure of cost, as shown by the cost book, and Manufacturing is credited for the same figure. The balance of Manufacturing will then show the cost or value of goods still in the shop. If, similarly, when goods are sold, Stock is credited for the cost price of the goods sold, and Trading account is debited at the same price, the balance of Stock represents the cost of finished goods on hand in the stock room. If, finally, when goods go to the shipping room, Trading is credited at the selling price, the balance of Trading will at all times show the profit on goods sold. Here, then, is a complete system showing at all times the inventories, the costs, the relation of the separate items of cost to the various groups of cost, and affording a means of comparison for each item of cost with the figures for other years. The principles here shown are applicable in practically every case; the only variations will be those required by the peculiar circumstances of each individual shop.

It is to be noted, moreover, that this principle of

distribution of burden is applicable in many other things than manufacturing. In most lines of enterprise, whether of a commercial, political, or charitable nature, it is desirable to know what is got for what is spent. Only when an attempt is made to distribute joint costs over the product or service rendered can a manager know whether he is getting his money's worth or whether further economies should be sought. Nothing could be further from the ordinary commercial enterprise, at least in purpose, than the conduct of a charitable hospital. It must be realized, however, that even more than in a commercial enterprise is it desirable in a hospital that the most shall be got for the money; for the donors have given money in trust for the public welfare, and if the managers cause any part of that money to produce less than the maximum public benefit, they are either intentionally or by neglect cheating the public of its belongings. Even in such institutions, therefore, cost accounting is essential. If undue space is provided for administrative officers, doctors, and nurses, cost is unduly increased. If the patients in private wards do not compensate the hospital sufficiently for their accommodations and for their food and treatment, the charity public is cheated. Only careful cost accounting will show when the costs are met.





## CHAPTER XVI

### SETTLEMENTS BASED ON ACCOUNTS

An accountant is likely to be concerned indirectly in many business operations which are out of the usual course. He needs to know something of law and custom in relation to circumstances that may never arise, for though he is not responsible for carrying out any operations, he is responsible to see that his books preserve the information that may be required by those in authority. An accountant is not primarily responsible to make a fair distribution of profits between partners, for instance; but his books should be so kept that the person making the division can learn the desired facts. The same thing is true with regard to trusteeships, executorships, and the settlement of the affairs of a bankrupt. Let us take these in order.

In partnerships, the books must show the facts with regard to all a partner's relations with the business; for partnership agreements may provide for so many elements in the final distribution of profits that books which do not properly distinguish between these various elements may prove at any time deficient. If a partnership agreement does not specify how profits are to be distributed, the presumption is, unless there is some extraneous evidence to the contrary, that the partners are to share equally in

both profits and losses. Sometimes a partnership agreement provides that profits are to be distributed in the ratio of partners' investments—and, of course, it is assumed that the length of time the capital is in the business is one of the elements of the investment itself. Sometimes a provision is made that interest on capital shall be allowed partners as the first element of profits, and that after this provision is made the profits shall be distributed on some other basis. Sometimes provision is made for definite salaries to be allowed to partners. This is common where a considerable disproportion exists between the amount of investment by different partners and the amount of personal profit which they are expected to appropriate; especially is this common where one man furnishes the capital for an enterprise which he little understands and another with little or no capital furnishes the knowledge of the business and the managing ability. Sometimes provision is made that a minimum investment shall be maintained by each partner and that if any partner falls behind in his investment he shall suffer a penalty—usually through the medium of an interest charge. Primarily, an accountant is not expected to pass judgment on the equity of a partnership agreement; but since it is his task to see how the agreement works out in practice as applied to the figures of any particular business, he ought to be able to make recommendations to his superiors. Let us see the operation of the various provisions for distribution already indicated.

A division of profits without regard to capital or salaries is, of course, easy to administer because

one has merely to determine net profits and divide it equally among partners. A glance at the books in any case should show whether that is likely to be approximately fair. If the capital accounts of partners show that any one of them has an investment far lower than that of the others, or that his investment is for a shorter period, resulting commonly from a withdrawal of funds in the course of the year, it is obvious that some other provision should be substituted for equal division among partners,—unless, indeed, it is understood that the partner short in capital renders special service in other respects.

A division of profits on the basis of investment alone is almost equally simple; for if one partner has an investment of \$15,000, another of \$10,000, and another of \$5,000, it is obvious that the division of profits should give one-half to the first (for he has invested one-half of the total \$30,000), one-third to the second, and one-sixth to the third. It is equally obvious that if the personal services of the three partners are of equal importance, the ratio of division is unfair, for a certain sum ought to be provided for salaries alone and then the remainder apportioned on the basis of capital. If the books show that the amount of partners' investments has varied from month to month, some scheme of equalization is necessary. A common device is to figure interest on those investments and find the ratio between the interest on the investment of each and the total interest of all the investments, and then to apportion profits accordingly. If the withdrawals are usually at monthly intervals, however, it is common to multiply the net investment each month by



the number of months it remains in the business and get as a result a sum for each partner equivalent to an investment for one month. A comparison of these equivalent investments will show how profits are to be distributed between partners. If, for example, the total investment of the first partner multiplied by the months which each portion was in the business gives \$150,000, of the second, \$75,000, and of the third, \$50,000, profits should be divided on the basis of six-elevenths ( $150/275$ ), three-elevenths, and two-elevenths,—instead of one-half, one-third, and one-sixth, as we found when time was neglected.

When provision is made, as is common, that the first charge against profits shall be interest, at a fixed percentage, on the partners' investments, interest is figured on each partner's investment for the time it is in the business, and he is credited on his account with the amount—which, of course, is charged to Interest.

Similarly, when provision is made for salaries, or for interest and salaries, credits are made to the partners' accounts and debits to Salaries, or Expense, or Profit and Loss, as the case may be. The remaining profit is then, as before, divided between the partners equally unless there is provision for some other basis.

When provision is made for penalties to be charged to partners whose capital is deficient, a complication arises which, without advance provision in the partnership agreement, may cause unfortunate differences. If, for instance, provision is made that each partner shall maintain at least a minimum

investment, and that any partner whose investment is below that minimum shall be charged interest on the deficiency, question may arise, at the time of making the charge to the partner for this interest, as to the account to be credited. The other partners sometimes demand that the interest charge to the delinquent partner shall be credited directly to them in proportion to their shares of profits. The delinquent partner, on the other hand, claims that such credits shall be made directly to the profit and loss account; and as he, because he is a partner in the business, is entitled to a share in the profits of the business, he is entitled to his share of the profits resulting to the business from charging him interest on his deficiency of capital. Unless there is specific provision to the contrary, it is obvious that, on the basis of all accounting methods, the interest charged the delinquent partner is an earning of the business, and he as a partner is entitled to share in it. If the partners desire that penalties for delinquencies shall accrue directly to other partners, provision for this should be made in the partnership agreement.

Unless provision is made to the contrary in the partnership agreement, it is understood that losses shall be shared on the same basis as gains. Under one circumstance the books are likely to show that this works great hardship. If a firm has not good credit because of poverty, it cannot always borrow all the money it needs for the economical conduct of its business, and for any partner to abstract or withhold from the business capital which he ought to maintain is to hamper the business and possibly not only to keep from it profits which might otherwise

accrue, but absolutely to cause it loss. It is clearly unfair that under these circumstances losses should be shared on the basis of capital investment; for then the partner straining his utmost to keep up the operating capital of the firm suffers most in the division of losses, and the partner who has withdrawn his capital suffers least. All partnership agreements should provide, therefore, that each partner shall maintain a minimum capital, and that on deficiencies he shall be charged a rate of interest not only as much as the market rate but really much more; this will withdraw from him the temptation to sacrifice a business in which he has only a share and devote his capital to operations from which he will derive the sole profit. In fixing the rate, too, one should realize that if this charge for deficiency in capital is to be carried through the profit and loss account, the delinquent partner will receive a share of the profit from his own penalty, and the rate should be placed at a point that will make it effective.

It should be further observed that often partners loan to their own business sums of money which—as is distinctly understood not only by them but by the other partners—are not invested; such loans, therefore, are not entitled to profit and should not share in losses—unless, indeed, the partnership goes into insolvency, in which case the loan of the partner will suffer even more than the loans of outsiders (for since the partner is himself responsible to the full extent of his property for the debts of the firm, he can demand nothing by way of payment until all outside debts have been met).

It is obvious from this discussion of the various



methods of distributing profits that the bookkeeper must be careful to distinguish between the various relations of each partner to the partnership. It will be found in practical experience that if a business has suffered loss, and especially if it is to be dissolved (so that final settlements must be made between partners), distribution of assets must follow a definite order, and no sum must be given to any partner on account of one of his relations until all sums have been paid to other partners on account of prior relations. For this reason there must be no risk of confusion on books between a partner's investment account, his personal (or salary and withdrawal) account, his interest account, and his loan account. It is impossible in a book of this sort to discuss the various difficult complications arising from practical problems, and we must content ourselves here with the observation that if these various relations just indicated are properly distinguished on the books, a person familiar with the law will have no difficulty in making final settlements.

We saw in the chapter on the peculiarities of corporation accounting that provision must often be made for good will. It is not usually desirable in a partnership that partners shall be given credit for the amount of good will belonging to the business, even though it be known that this is a large item; for any sum shown by the books as credited to a partner in excess of the minimum required by the partners' agreement may be by him withdrawn. It is obvious, however, that good will is not subject to withdrawal; for it exists only in connection with the running of the business, and the moment it is with-

drawn from actual connection with the business it disappears. Partnership agreements sometimes provide, however, that in case of the decease of a partner his heirs shall be entitled to recover from the firm the deceased partner's share of the good will. Here, however, it is to be noted that the good will is not withdrawn from the business, for the remaining partners purchase that good will from the heirs of the partner deceased and they maintain it in the business. In such a case, of course, the proper thing is to figure the good will on the basis provided by the partnership agreement and credit the amount to the deceased partner. When payment is made, his account is balanced, and the good will appears on the books as an asset; for the original entry must have been a debit to Good Will and a credit to the account of the deceased partner. This good will may properly stand as an asset on the books; for unless overstated it represents a value which, though intangible, is quite as real as that of tangible things, and, since it has cost the present partners some value, on the theory that the only proper basis for capital charges is cost or sacrifice it may stand on the books as an asset. It is true, of course, that the good will which properly belongs to the remaining partners is a true asset, but since it may not be withdrawn by them, though it may be transferred, it should not appear as credited to their accounts—and, therefore, cannot appear at all.

In an early chapter attention was called to the fact that single entry is not scientific bookkeeping, for it does not show sources of profit nor causes of loss. An accountant is often asked to provide infor-

mation necessary for a partnership settlement from books kept only by single entry. It is desirable here, therefore, to make a slight examination of single entry. Under the strict single-entry method no accounts are kept except for property and claims. When merchandise is sold, the only record made is a debit to the customer; when a note is received from a customer, the only entry is a credit to the customer; when cash is paid for wages, no entry is made on any book which will lead to the ledger, but the item is written on the cash book in order to enable the bookkeeper to see how much cash he ought to have on hand. Usually, in practice, a little of the double-entry method is incorporated in single-entry books, and credits are made to Bills Payable, for instance, when notes are issued, and debits to Bills Receivable for notes received. Even then, however, the books are not double-entry books, for no attempt is made to produce equality between the two sides of the ledger. Under the single-entry theory, since assets can always be counted, no need exists for entry on the books. The method of learning profit or loss under single-entry is the method pursued in proving the six-column statement by double-entry; that is, a comparison of the balance of resources and liabilities at the end of the year with that at the beginning of the year shows (except for withdrawals and new investment of capital by partners) the profit or loss of the year's operations. Under double entry, it will be remembered, the books give two methods of learning profit,—one by a comparison of assets and liabilities, the other by a comparison of losses and gains. The single-entry method



of determining total profit or loss is quite as good as the other, if it can be assumed that no errors have been made on the books; but since it shows no details and gives no indication of the sources of profit or causes of loss, it is entirely inadequate, and furnishes no basis at all for any accounting properly so called. When, therefore, one has to learn from single-entry books what profit has been made by a partnership, one has only to draw up a statement of assets and liabilities for the year in question and compare it with a similar statement for the year before—making allowance, of course, for withdrawals and investments by partners. If a statement for the present time compared with that of the earlier time shows no change, it is obvious that the profit equals the withdrawals of partners—that is to say, the partners have withdrawn during the year just the profits made. If, on the other hand, there is no increase of assets and the partners have added to their investment during the year, as shown by their capital accounts (which, of course, must be maintained even in single entry, to show how much of the capital belongs to each partner), the business has lost the sum of such additional investments. If the difference between the statements of resources and liabilities shows increased assets, the actual profit is that increase plus all withdrawals by partners—for in spite of the sums withdrawn profits still exist *in the business*, and so the total profits have been present profits plus withdrawals.

Let us turn next to trusteeships. Their peculiarity is that the distinction between capital and revenue is under them likely to be much more im-

portant than in ordinary business transactions. If, for instance, the trustee is executor or administrator under a will, and the will provides that the "corpus" of the estate—that is, the body of the estate as distinguished from income—shall be paid ultimately to one person, but the income of property shall be paid to one or more others, the trustee must realize that the corpus of the estate is the value of the estate at the moment of death. Very few business relations, however, reach culmination day by day. If, for example, the testator held bonds on which interest is regularly collected or real estate on which rent is regularly collected, the interest and the rent accrued on the day of death (though not yet due) belong to the inheritor of the corpus of the estate, but all income from these sources accruing later and beginning to accrue on the day of death belongs to those who hold the life-interest, or income. It is necessary for the trustee in keeping his books of account, therefore, to see that all the elements of the estate are valued as of the day of death, even though collected later, and that all sums earned later are shown on his books as income.

Under the law of most states the title of all personal estate vests immediately on death in the executor or administrator, and therefore he should keep books of account showing his responsibility to the estate. Real estate, however, under the law of most states, does not vest in a trustee, but passes at once to the beneficiaries under the will or under the general law, and, therefore, the trustee does not ordinarily need to record real estate on his books. His first entry, after making an appraisal of the

estate, then, is a debit to the accounts representing specific kinds of property, and a credit to the personal estate of the deceased. When any changes occur, such, for instance, as collections of rents and interest, he debits Cash, as in ordinary cases, and credits the personal estate for that sum which had accrued at the time of death, and credits Income for its due share. When any payments are made to beneficiaries entitled to the income of the estate, Income is, of course, debited for those payments, and Cash, or the other necessary property account, is credited. If at the time of death rentals have accrued on real estate which is under the will or under the general law transferred directly to beneficiaries, the trustee will collect the rental on the next date of payment and will credit to Income the sum accrued since death. The sum accrued at the time of death will have been already debited to Rentals Accrued at the time the books were opened, and credited to personal estate. Many problems of executorship involve careful and complicated computations of the exact division between income and principal. Their solution should be undertaken only by persons familiar with the mathematics of investment.

We may turn next to insolvency. In case a trustee is required to settle the affairs of an estate, individual, partnership, or corporation, in insolvency, he must see that he has acquitted himself not only in reality but on his books for all responsibility assumed. The first step is usually to make an estimate, for general guidance, as to the probable yield of assets. This is usually made in the form of what is called a "statement of affairs." Such a state-



ment usually has the liabilities on the left side of the sheet, because, since its purpose is to show how far the property is likely to liquidate liabilities, the first concern is to show what is the amount of such liabilities. Usually several classes of liabilities, with different degrees of security, are to be met. The order in which items shall appear is not, of course, of great moment, and the desirable thing is not so much to show totals as to show for each class of liabilities how it will probably fare in final settlement. Any assets that must of necessity apply to specific liabilities, such as securities pledged as collateral, should be connected with those liabilities. So far as any liabilities are wholly secured, they do not affect the solvency of the business, and need to appear on the statement only to show that they have not been forgotten or that they absorb certain assets which otherwise would be useful in liquidating other liabilities. The primary purpose of a statement of affairs, therefore, is to show the unpledged assets in their relation to the unsecured debts. Naturally the first item is commonly the amount due to unsecured creditors. Next is usually stated the amount of secured liabilities, with the estimated value of the security pledged; any excess value of the security is therefore free and available to set among the resources on the other side of the sheet,—unless, indeed, some of this surplus may be specially claimed by creditors partially secured. (See page 389.) Next among the liabilities come sums due to creditors partly secured, and from this is subtracted the estimated value of the security pledged for those liabilities; the balance, or excess liability, is added to

the sums due to unsecured creditors. Next are added the liabilities on notes, the contingent liabilities, and finally the liabilities to preferred creditors, such as those for taxes, for fees in insolvency, for wages, etc. From this last class are deducted funds found on the other side to be available for the payment of such preferred claims; for since these claims are legal preferential claims, they absorb the first free assets, and if sufficient free assets are available to provide for them, they disappear as unsecured liabilities. On the assets side of the sheet the general list of property is given first. Next follow the accounts receivable, which are classified as good—of which the amount is extended into the total column,—the doubtful—for which an estimate is made as to the probable yield and the amount extended into the total column,—and the bad—which, of course, will yield nothing for the total column. Next follow the bills receivable with their estimated value; then the surplus from any values pledged to the secured creditors, as shown by the subtraction from the second item of liabilities. From the total of these may be seen readily whether any sums are immediately available to be laid aside for the preferential claims—as previously indicated; and if so they are at once deducted and applied to such claims on the other side. The total free assets now compared with the total unsecured liabilities will show probable deficiency. This, of course, is added as the last item on the resource side to balance the statement. A form is given below.

# SETTLEMENTS BASED ON ACCOUNTS

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LIABILITIES		RESOURCES	
Unsecured creditors	\$15,000	Cash	Book Estimated Value
Pledged with secured creditors	12,000	Merchandise	Value
Due to secured creditors	\$ 3,000	Sundry miscellaneous:	\$ 4,000
Surplus		(Details should be shown)	17,000
Less claimable by partially secured creditors	1,000	Accounts and bills receivable:	28,000
Net surplus, <i>contra</i>	\$ 2,000	Good	\$ 8,000
Partially secured creditors	\$ 8,000	Doubtful	\$ 7,000
Value of security	\$ 6,000	Bad	3,000
Balance	\$ 2,000	Surplus ( <i>contra</i> ) from securities pledged	2,000
Less amount applied above	1,000	Total	\$27,000
Net balance		Deducted for preferred creditors	950
Bills payable	1,000	Net resources	\$26,050
Liabilities on protested notes:	10,000	Deficiency	27,950
Accommodation			
Commercial	16,000		
Preferred creditors:			
Legal fees	\$ 2,000		
Wages	\$ 150		
Total	\$ 800		
Less available, <i>contra</i>	\$ 950		
	\$54,000		\$54,000



The next task of the trustee is to realize on the property. A common form of recording this on books of account is what is called a "realization and liquidation account." If it is undesirable to close at once on the books all asset and liability accounts into the realization and liquidation account, an artificial adjustment account may be credited for the necessary debits to Realization and Liquidation, and debited for its credits. The first entry under this plan will debit Realization and Liquidation for all assets at their book value—for the book value naturally represents the theoretical basis on which the realization will proceed. The adjustment account will be credited for the same sum. Next, Realization and Liquidation will be credited for all liabilities to be liquidated, and the adjustment account will be debited for the same sum. The result of these two entries is that Realization and Liquidation shows the book value of assets with which liabilities must be liquidated, and the amount of such liabilities to be liquidated. (See page 392.) Among the liabilities, however, would not, of course, be included the proprietor's capital, for since this is an inside relation it does not need liquidation in the ordinary sense. As soon as any sum has been realized—by the collection of accounts receivable and bills receivable or the sale of merchandise, for instance,—Realization and Liquidation should be credited, for that sum has gone to reduce the amount which the trustee is responsible to realize on. As soon, on the other hand, as any of the sums so realized have been applied to the liquidation of liabilities, Realization and Liqui-

dation is debited for those sums, for the trustee has performed to that extent his task of liquidation. Since, moreover, whenever realization or liquidation has been carried out, the original property and liabilities on the books are now disposed of, entries should be made to the adjustment account and to the asset and liability accounts on the books so as to bring the books into accord with the latest situation. If, for instance, \$5,000 is collected by the trustee on bills receivable, and with it \$5,000 of bills payable is liquidated, the first entry is to debit Cash and credit Realization and Liquidation, for the realization, the second, to debit Realization and Liquidation and credit Cash, for the liquidation, the third, to debit Adjustment and credit Bills Receivable, to close Bills Receivable on the books, the fourth, to debit Bills Payable and credit Adjustment, to close Bills Payable. If, in the process of realization and liquidation, expenses are incurred, as is practically inevitable, Realization and Liquidation is debited and Cash is credited; for these expenses paid are, from the point of view of the trustee, equivalent to liabilities liquidated. This charge does not need to appear on the old books in connection with any old account or on the adjustment account, for it has no relation to the old business except as Realization and Liquidation registers the settlement of old affairs. Realization and Liquidation is shown below for the conditions of the statement of affairs shown on page 389. It is assumed that the estimates made there prove accurate; otherwise the loss and deficiency would be affected.

## REALIZATION AND LIQUIDATION

(Assets at book value)	\$ 91,000	(Liabilities on the books)	\$ 57,000
(Liquidation of liabilities, first claims)	19,800	(Contingent and accrued liabilities)	16,950
(Percentage paid to unse- cured creditors)	26,050	(Realized from assets)	46,000
(Legal claims)	150	(Loss on realization)	45,000
Deficiency (unliquidated liabilities)	27,950		
	<u>\$164,950</u>		<u>\$164,950</u>

This Realization and Liquidation, as usually presented, is far from clear; for it is a mixture of unlike things. Debits to it may be assets to be realized on, or liabilities liquidated, or expenses of liquidation; and credits may be either assets realized or liabilities to be liquidated. The result is that no one can tell whether all liabilities have been liquidated unless he examines the detailed records. The purpose is served more clearly by opening separate accounts for each of the three elements of the combined account, and calling them "Realization," "Liquidation," and "Expense of Liquidation." The balance of Liquidation shows how many liabilities at any time remain unliquidated. The balance of Realization shows at any time how far the realizations have approached the book value of assets. Expense of Liquidation shows the costs. If, when all assets have been realized and utilized as far as they will go in paying debt, Liquidation still has a credit balance (showing debts outstanding), the capital of the business has been exhausted and some creditors are still unpaid. These three accounts are shown below.



## REALIZATION

(Assets at book value)	\$91,000	(Realized from assets)	\$46,000
		(Loss on realization)	45,000
	<u>\$91,000</u>		<u>\$91,000</u>

## LIQUIDATION

(Liquidation, first claims)	\$19,800	(Liabilities on the books)	\$57,000
(Liquidation, percentage to unsecured creditors)	26,050	(Contingent and accrued)	16,800
Deficiency	27,950		
	<u>\$73,800</u>		<u>\$73,800</u>

## EXPENSE OF LIQUIDATION

(Payment)	\$150	(Legal fees)	\$150
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When affairs have been settled, it is convenient to have in one table or one account a complete statement of deficiency, if any has resulted. What is ultimately affected by the deficiency will depend in part upon the amount of that deficiency. If the business has accumulated a surplus of \$20,000, and the deficiency proves to be but \$10,000, clearly only the surplus account is affected; if, on the other hand, the deficiency is \$50,000, surplus is \$20,000, and partners' capital, \$70,000, the deficiency has wiped out the surplus and made a severe inroad into capital, so that the net result is a remaining partners' capital of \$40,000. If, finally, the deficiency is for \$100,000, and the other accounts are as just indicated, the deficiency has wiped out the surplus, the capital, and, if the partners are now insolvent, a part of the debts due to outsiders.

One interested in the business, moreover, desires to know not only what has been the ultimate result

of the deficiency, but also from what it has originated. A deficiency account may indicate whether the loss has arisen from a shrinkage of assets, from a destruction of assets, from outside claims made against the business because of its usual operations—such as bankruptcy of business houses whose notes the firm has accepted and has discounted or otherwise transferred to others on endorsement,—or from accommodation endorsements for outsiders by way of friendship—which, of course, are not normal or (in a sense) legitimate business operations. This can be easily shown by a deficiency account giving on one side capital items, or items connected with capital, and on the other side the changes in assets affected by realization and either shrunk or destroyed, with the liabilities thrust upon the business from outside—that is, claims not arising from its operation, but demanding the surrender of assets for which the business has received no adequate return. Assuming the capital to be shown on the books as \$34,000, this form of deficiency account would be as follows:

(Compare with pages 389 and 393.)

DEFICIENCY			
Realization (loss)	\$45,000	Capital	\$34,000
Liquidation (new liabilities)	16,800	Balance (net insolvency)	27,950
Expense of Liquidation	150		
	<u>\$61,950</u>		<u>\$61,950</u>

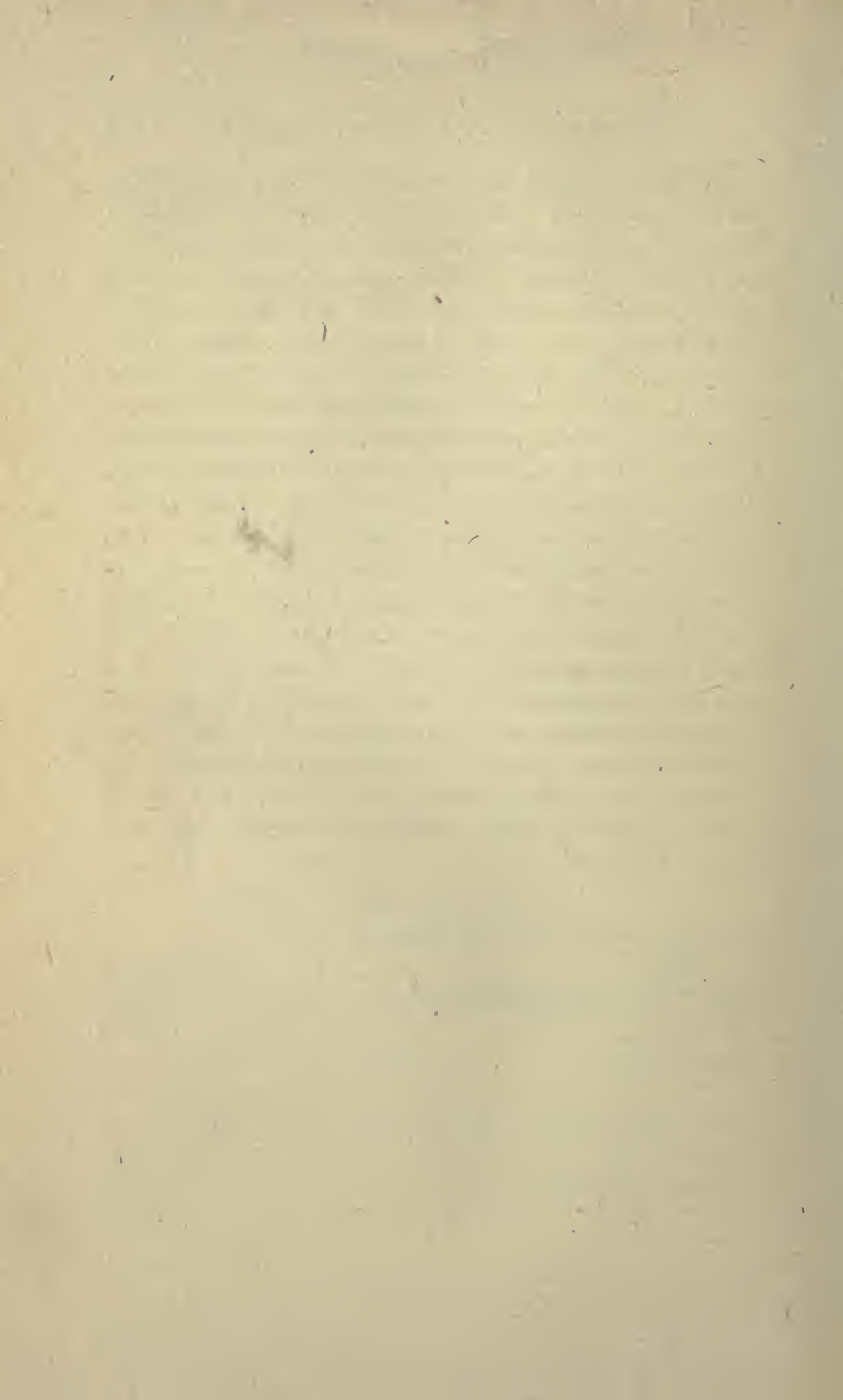
As has been suggested in other connections, though a ledger form for such a statement is convenient for the accountant, it is not always clear to persons not familiar with books of account. This

deficiency account may be very easily presented in ledger form, but is likely to be more intelligible if in the form of a statement with subtractions wherever they naturally belong. It is always possible to draw such a statement so that its relation to other statements with which it is connected shall be obvious. In this case, therefore, the amount of deficiency, as shown by the deficiency account, should agree in amount and in detail with the statement of affairs and the realization and liquidation account. Commonly, accountants make reports which, though intelligible to persons familiar with bookkeeping, mean practically nothing to anyone else, for not only are the *contra* items meaningless, but the items which are common to various sheets are given titles which hide common relations, and the novice is unable to see the information that he wants either in any one of these accounts or in the relations between them. Below will be found a form, for the situation described above, which is clear and intelligible for all readers familiar with commercial terms and with simple figures.

## DEFICIENCY

Depreciation on assets, as shown by Realization:		
Book value	\$91,000	
Realization	<u>46,000</u>	\$45,000
Liability for commercial endorsements		14,000
Liability for accommodation		<u>2,000</u>
Total losses		\$61,000
Capital invested	30,000	
Profits accumulated	<u>7,000</u>	
	\$37,000	
Withdrawals of capital	<u>3,000</u>	
Capital as per books	\$34,000	
Accrued expenses	<u>950</u>	
Net nominal capital		33,050
Deficiency, or net insolvency		<u>\$27,950</u>





## CHAPTER XVII

### AUDITING

Under the general title of "auditing" are usually included several kinds of work that ought to bear another name. Auditing strictly so-called should include only thorough examinations of books to make sure that the final conclusions presented in the income sheet and the balance sheet are warranted by the original documents. Among special examinations which ought properly to be given some other name are examinations by professional auditors to gather for outsiders certain specific information about businesses in which they are interested. If a man is contemplating an investment in a business as a partner or a stockholder, for instance, he may employ an auditor to learn whether the sales are as large as stated, whether the property is as valuable as stated, and whether the business of the past warrants certain conclusions with regard to the future. Such a study of the books requires work similar, as far as it goes, to that of an ordinary audit, but it is commonly called simply an "examination." Of a similar nature may be an examination for a person invited to lend money to a business, for he desires to know the probability not only of solvency, but also of earnings; he wishes assurance of the payment of his debt without legal procedure in bankruptcy.

The two main purposes of an audit are to detect fraud and to detect errors. It has happened often that books have been seriously misleading not because anybody intended to mislead, but merely because ignorance led to erroneous accounting or book-keeping. If it is suspected that anyone concerned with the books has fraudulent intention, the examination will proceed on somewhat different lines from that when only innocent error is feared; but the difference of method cannot be very extensive, for fraud has often been detected where there was no slightest suspicion before the audit. The method of an audit, then, should be based on the realization that many men perfectly honest are likely to make errors, and that many men apparently honest are likely to commit fraud. The examination should be so conducted that neither error nor fraud can escape detection, and in such fashion that one bent on committing fraud cannot in the progress of the audit cover up his tracks so that by false entries on the books he transfers his error from work which the auditor has not yet examined to that which he has passed. As a matter of fact, there are very few errors committed with fraudulent intention which might not also chance to creep in by carelessness or ignorance. Many men are so loath to stand committed of innocent error that they are likely by what they consider a perfectly innocent method to attempt to cover up their mistakes while an auditor is engaged in examining the books; and by making entries surreptitiously in work which the auditor has already passed they may upset a large part of the value of the work which he has already done. For an auditor



to refuse to trust anyone, to insist on seeing everything absolutely correct, and to refuse to allow changes in work which he has passed, is only to protect himself against waste of labor and is not to cast doubt or suspicion on the work of those regularly engaged on the books.

The errors which auditing is to discover are of two sorts. The first are mere errors of bookkeeping which result in wrong figures. These are purely technical, of course, and their discovery and correction are easy, for they do not involve judgment. The second class of errors, those which arise from neglect of some accounting principle, either through forgetfulness of some element in a problem or through bad judgment in the use of that element, are more or less difficult of detection; for the auditor very commonly is not thoroughly informed about the details of the business and cannot always see in his mind's eye all the elements of the problem before him. It is the auditor's function, however, to watch carefully to see that proper accounting principles are applied in all cases which come to his attention.

The detection of fraud is much more difficult, for a person undertaking to commit fraud is usually in a position—and, of course, has the intention—to cover up his tracks. Of frauds, again, two classes are to be observed. The first are the fraudulent entries made by subordinate employees in violation of orders given to them by their superiors. The commonest form of this kind of fraud, of course, is that which leads to the possibility of extracting cash. Actual theft of property other than cash is less common, and much harder to detect; but since it always re-

quires, if carried on largely, assistance in disposing of the property, collusion is likely sooner or later to be detected. Fraud committed by members of a partnership against their colleagues or by officers of a corporation against the stockholders is often difficult for an auditor to detect, for the person committing the fraud is trusted by others, and he has information about the conduct of the business which is beyond the auditor's power to secure. In such cases an auditor's ability to discover fraud lies chiefly in his general knowledge of business conditions; for he can make comparisons between figures which he can get for this particular business and figures warranted by his general experience. When he finds any considerable discrepancy between general figures and the figures disclosed for this business, it is his duty to investigate.

The extent of the work an auditor shall do must be determined for him in every case by the form of contract which engages him. In the ordinary course of his work he is likely to come across many transactions which it is impossible for him to pass judgment upon. In such a case he may well request a partner or an officer to sign a statement assuming responsibility for that entry. In the auditor's final report he may well call attention to the fact that this item is one upon which it was impossible for him to pass judgment, and that it is vouched by a person in authority. The auditor is not performing his duty, however, if he falls back on such a statement signed by a partner or officer in any case which he is able to investigate for himself; for since the purpose of the audit is to certify the correctness of the books

from an *outside* examination, in every case in which he accepts the statement of an officer as to correctness, he is by so much failing to perform the work which he was hired to perform; and, therefore, such statements should be used only in cases where it would naturally be the auditor's task to verify the item but from peculiar circumstances he is unable to do so.

The first task in auditing is to learn what is required by the documents to be on hand at the date of audit. If the books were known to be correct at the beginning of the period (because a previous audit has proved their correctness, or because the business was started at that time, or because those engaging the audit are willing to accept the books as correct at the beginning of the period), and the property now on hand is found by the auditor to agree with the property required by the records to be on hand, the audit is complete so far as its primary purpose—the discharge of responsibility—is concerned. It is obvious, however, that since the purpose of the audit is primarily to see that the property called for by the books is on hand at the end of the period, and since it is in most cases impossible for both parts of the examination—namely, the conclusions from the books and the counting of property—to be performed at one sitting, the auditor must take precautions that no changes shall be made in either the books or the property while the audit is in progress. The whole art of auditing with respect to property is so to conduct the work that the conclusions from the books and the counting of property shall be brought to a culmination at the same moment, and that, there-



fore, no doctoring of either shall be possible. The auditor must therefore know and preclude the possibilities of making changes in the books to represent what is not a fact, and of padding the assets so that they shall appear to be greater than they really are. He must conduct his work in such a way that no loopholes shall be left and that at all times the work which he has performed lies under his own hand and cannot be changed without discovery.

An important medium for helping the auditor to make sure that the accounts have not been altered during the progress of the examination is a note-book in which memoranda of important figures may be made. Since it is important at some definite moment to see that the property on hand agrees with that called for by the books, and yet one cannot usually go through all the books at one sitting, the only precaution against interference with the books lies in making a memorandum, on outside papers, of the total of the books, so that a comparison with the originals at any time in the later progress of the audit will show whether changes have been made. These working papers constitute virtually another set of books written up under the auditor's own direction, but containing only summaries of important details. The specific items to be entered in such working papers will be considered in connection with the separate steps of an audit.

It is foolish for anyone to attempt to audit books until he has become familiar with the ordinary operations of the business, with the books which are ordinarily kept, and with the system of organization which determines who is responsible for all entries.

The first step, therefore, is for the auditor to look over the business carefully and see just what is done. The second is to learn just what books are kept and what each book is designed to do. The third is to learn who is responsible for the entries in all books. With this information at hand the auditor may plan the course of his audit and know all the time what materials he has at hand and what loopholes have been left for errors of carelessness or of fraud. It is worth while to spend a large amount of time in studying the situation before attempting any handling of the direct figures; for when one has become engaged in the handling of books and the checking of figures one is likely to be so much impressed with the immediate task in hand that one forgets the larger aspects and may fail to see a loophole in the general system. One should note not only what books are actually kept, but whether any book which is necessary to make a secure plan of accounting has been omitted, or whether any person is left in charge of two books which ought to be so thoroughly separated that one can be used as a check on the other.

Ordinarily the first step in the actual audit is to transcribe on one's working papers the summary of all transactions. The most serviceable form for this is usually, of course, the trial balance. This trial balance should be copied item for item into the working papers, and if this is a first audit the trial balance at the beginning of the period audited should also be taken in order that without reference to the books themselves the auditor can see what should be the net changes for the period under examination. If this is a second or later audit by the same auditor, he

should use as his initial trial balance the copy he took at the close of the last period audited. If the trial balance includes, as it usually does, some controlling accounts—that is, accounts representing, in the general ledger, groups of accounts in subordinate ledgers—the audit cannot be complete unless a list is made of all balances shown on the subordinate ledgers, for otherwise the auditor leaves open to the bookkeeper the opportunity to make changes in the subordinate ledgers during the course of the audit. If, on the other hand, the auditor has a complete trial balance with a separate list (which, of course, must agree with the balance of the corresponding controlling account in the general ledger) of individual accounts, he has the whole condition of the business as represented by the books in his own hands, and no changes made later can escape him if he uses due diligence. It is well to add to these figures, however, the monthly totals of all books posted in lump sums—such as the cash book, the purchase book, and the sales book.

The next step is for the auditor to examine the property on hand at the close of the period. In general, this property should be listed on the working papers, for in a large business anyone having charge of property may with fraudulent intention present some property twice unless the auditor is careful to list or mark for identification each bit as he passes it. A common method is to stamp or check by some private mark each evidence of property passing through the auditor's hands. If such property is also listed, there is little danger that any shall be counted twice. It is usually possible to copy the trial balance, to



copy the balances of subordinate ledger accounts, and to count the property, at one sitting—though, of course, many clerks may be needed to put through all this in one day. When this cannot be done the auditor should keep within his control all matters on which the examination is not completed. Then as he has knowledge of the results of all transactions—in his summary of the books and of the property—he may begin in the ordinary course to examine specific items and learn whether the details as shown by the books produce the summary of the situation as recorded in his own working papers. To that examination we will now proceed.

It is well before we attempt to find means of protection against fraud to note what are the commonest devices for covering fraud; for some sorts of fraud may be perpetrated through several different books, and after we have once grasped the principle we can follow through the checks in the various books without repeating our discussion of the fraud which they are intended to detect. Let us take, first, frauds attempted by subordinates against the orders of their superiors.

As has already been suggested, most fraud is attempted in connection with cash. The most obvious scheme of this sort is to report cash receipts to be less than the actual amount received, and thus leave a sum to be appropriated by the cashier. Always, of course, the bookkeeper realizes the possibility that the payments of cash will later be discovered and that then the discrepancy will appear. His deceptive task is so to make his entries that the payment will be recorded as a credit to the person paying, but

not the receipt as a debit to Cash. In the natural course of events, if for a cash receipt the personal account is credited and no debit of any kind is given, a discrepancy appears in the trial balance; but if the precaution is taken to reduce the credit balance (or increase the debit balance) of some other account on the subordinate ledger, so that the total balances shall still agree with the balance on the controlling account in the general ledger, no discrepancy will appear unless the falsified account chances to receive careful examination. This device has been commonly used by defaulting bookkeepers who knew which accounts were little likely to be questioned. In such a case, of course, the bookkeeper is careful in sending a statement to the customer falsely debited to include only the correct figure. By this device the books are kept in balance, the proper credit is given to the customer paying the bill, and, instead of a debit to Cash, the books show a false debit to another customer. If the bookkeeper can at his convenience shift this false debit so as to keep it constantly in a quiescent state, the trick may escape detection. Only the customer's verification of his balance as shown by the books of the firm will detect false entries if they are made skilfully. Sometimes a bookkeeper produces the desired credit to a customer's account, without debiting Cash, by treating the payment as if it were an allowance for returned goods or for discounts; then he may appropriate the cash without throwing the books out of balance. If the bookkeeper is left a free hand in charging off customers' accounts to Bad Debts, moreover, it lies within his power at any time to put remittances into

his own pocket and close a customer's account as if it had proved worthless—provided, as should never happen, he has not only the handling of the books but also the handling of remittances. All these devices show the correct balance for the remitting customer's account, and therefore are little likely to be detected through the customer himself.

Another method of diverting cash to the pockets of the bookkeeper or cashier is to credit Cash for larger payments than are actually made. Unless the business is closely watched, this can be done by debiting creditors for the full face of bills even when discounts were taken or goods were returned. The difference between the net price paid and the gross price entered on the bills is set free for the cashier's pocket, and no discrepancy is shown in either the cash account or the account of the customer unless the details of the customer's account are passed upon.

If the bookkeeper and cashier are left a free hand for the payment of interest, taxes, insurance, etc., they may represent payments to be larger than the actual amount called for and divert the excess to their own pockets. It is possible, indeed, that, unless the transactions are watched carefully, a creditor may be debited a second time for a bill paid once, and the second payment be diverted to the cashier's own use,—provided only some other account is falsely debited at the time of the entry to the credit of Cash. If a debit is made to another customer, the books will show no discrepancy between debits and credits, and the only precaution the bookkeeper needs to take in covering his tracks is that the false amount be trans-



ferred to some other account before this account chances to be examined. Many bank defalcations have been continued for years because they were hidden in unquestioned balances in so-called inactive accounts.

A device which has been used many times to cover defalcations is borrowing from the future through remittances received in the daily course of business. If, for instance, a cashier receives daily large sums of money, he may fail to enter those sums on the books for perhaps twenty-four hours, and may use part of them to cover a defalcation of the past; and he knows that he will have at his disposal among the remittances of tomorrow enough to cover the shortage of today. So long as the books are never quite written up to date, the cashier has at his disposal, if the business is so organized as to give him access both to money and to the books, a sum which has not up to that time been recorded.

The detection of forgery is not here considered as properly within the auditor's function; but, of course, if he has reason to suspect crookedness, he should be on the lookout for anything which should lead to its discovery.

We may now turn to errors of fraud committed by officers. Among the common devices to misrepresent the condition of a business is the inclusion of bad debts and bad bills receivable as good. Sometimes a manager fails to report the issue of notes which are still outstanding, even though these notes were issued for cash. The failure to credit Bills Payable in such a case is covered by a credit to some other account that in the nature of the case is not

examined in detail in the ordinary course of business. It may happen that a considerable loss is hidden by a failure to record on the books the fact that notes received from customers have been discounted at banks, and that these notes have not been paid at maturity; for in that case the business is liable for their payment, and yet, if Bills Receivable, instead of Bills Discounted, was credited at the time the notes were discounted, nothing on the books will show that the business is liable unless a new entry has been made at the time of maturity debiting Protested Notes and crediting the former holder of the notes. Through neglect of this entry liabilities may be represented as less than they really are.

If the accounting is not careful, goods received just before the time of taking account of stock may be counted in the inventory before they have been entered on the books. In such a case the profits of the business and the net assets will be misrepresented; for merchandise will not have been debited, and yet the inventory will be treated as a *quasi* credit.

With this preliminary survey of the frauds likely to be attempted, let us turn to the methods of examination. A few general rules should be held constantly in mind. Alterations and corrections should receive careful scrutiny, for they may have arisen from an attempt to correct an error or to hide a fraud; and not always does a bookkeeper get the correct result when he is trying honestly to correct an error. It is extremely easy in making corrections to commit a new error. Ambiguous figures—that is, figures which are not perfectly clear to read—should be

given careful attention, especially when carried to another book; for a figure which the bookkeeper meant for "7" may have been added or posted as a "1" or a "9." In checking figures, care must be taken to avoid confusion of dollars and cents. Even a person checking by the eye is usually influenced unconsciously by the imaginary sound of the figures, so that if he reads "117.00," he may check "1.17"; or he may check 200.25 as 225.00. The word "dollars" or "point" should always be used; then the expression will be "one hundred seventeen point" or "two hundred dollars twenty-five." This is especially necessary when one person is calling off to another who does not see the original figures. The auditor must be sure that he understands exactly the purpose and use of every special column in every book, for if a column is designed for one use, and then fraudulently or carelessly put to another, it is the auditor's business to detect the misrepresentation.

Before we study in detail each of the separate books and separate kinds of entries, it is worth our while to examine the various auditing processes which must be used. In the following pages will be found a summary statement of the principal work to be performed in each book, and it will be a saving of time and space if in many cases we use terms which are more or less technical or even if we manufacture terms to indicate processes which have no special name. Let us see what is the nature of each of the common processes and what terms we shall hereafter apply to them.

Wherever possible an entry should be compared



with the original document which gave rise to it,—for instance, a credit for goods purchased should be compared with the original bill. Whenever in the following pages the word “verify” is used in connection with any book, it will mean that the items there shown are to be compared with the original documents.

All payments should be compared with the receipts for payment. Such receipts, whether they are endorsements on returned checks or are formal receipted bills, are called “vouchers.” A receipted bill is a better voucher than an endorsed check, for it shows not only how much money was paid but what it was paid for. Sometimes a check given for one payment is fraudulently offered, when endorsed and paid, as voucher for another.

Sometimes no original document or voucher can be had, and then it will be necessary to consult original records which may be in auxiliary books; for instance, since the actual shipment of all goods is supposed to be entered on a shipping book, sales should be shown there. Freight and express receipts should be preserved to show that shipment was made; such receipts do not usually show more than the number and kind of packages, however. Whenever an entry is supported by the evidence of such an auxiliary book, it may be said to be “confirmed.”

In order to make sure that some account was debited for every credit, and *vice versa*, especially in connection with books posted in totals—such as the purchase book and the sales book,—the auditor should go over all footings.

Whenever a book contains several columns so

used that each of them is footed and posted on one side and the total of the various columns is posted on the other side, footing should be performed not only vertically for each column, but also horizontally so as to make sure that the grand total agrees with the sum posted. This is called "cross footing."

Whenever a book has special columns for different accounts, like the special-column cash book, the auditor should examine the extensions to see that the amounts stand debited or credited to the proper accounts and in the proper columns. This is examining the "distribution."

Of course, all items appearing in books of original entry must go ultimately to some ledger. It is not always necessary that postings to the subordinate ledgers shall be examined, for the controlling accounts in the general ledger show what should be the total debits and credits to the subordinate ledger, and if the total is found to agree the individual postings may be assumed correct,—at least if the tests to be described later are applied. All postings to the general ledger, however, should be examined. At the time of examination they should be "checked"—that is, actually marked both in the book of original entry and in the ledger. The check should be of a sort to distinguish it from checks made during the ordinary progress of bookkeeping. An auditor should never give a second posting check to any item, or pass it if once checked, under any circumstances; for, though the assumption may be that it was checked the first time by mistake, there is an equally good assumption that it was checked in error for some other item, and that, therefore, the other item will remain unchecked.

If, therefore, in the course of checking, an item once checked is about to be checked again, note should be made of the fact so that when the books are gone through finally, to see whether any items are still unchecked, the cause of error can be discovered.

When all posting is thought to have been examined, error may still persist unless the auditor goes through all the books to see that no item remains in any book unchecked; for since checking is bound to be more or less wandering, from one book to another, some items may chance to be overlooked at first. It may sometimes happen that an item remains unchecked in the ledger or in some other book because of peculiar circumstances which do not appear at first glance. On the discovery of such an item the entry should be copied, on the auditor's working papers, with full information. If books are kept by double entry, an unchecked item is sure to throw the books out of balance unless it is offset by some other unchecked item on the other side. If such another is found and they cannot be explained so that their meaning is beyond question and is clearly legitimate, they should be reported. If, on the other hand, no mate to an unexplained posting can be found, the auditor should discover why it does not throw out the trial balance; if it is an obvious error he should have it corrected, and if it looks suspicious he should call attention to it in his final report.

Sometimes an auditor may be unable to pass upon an item even though the bookkeeping is entirely regular, for sometimes a transaction is of so peculiar a nature that it is beyond his power to interpret and he is unable to get from any officer an explanation



which seems to him to justify him in passing it without further question. In such a case he should make a memorandum of the item in detail and report it to his clients. He may well call attention in his report, moreover, to explanations offered him, and give the name of the officers offering them and the date when they were offered.

It is an auditor's business to make sure, after he has checked original entries into the ledger, that the balances standing on the ledger, and, therefore, reported on the trial balance and the balance sheet, correctly represent the ledger figures. He must, therefore, figure the ledger balances and compare them with the trial balance. This is "verifying" balances and the trial balance.

An auditor should always make sure that a controlling account in the general ledger agrees with the balance of accounts in the corresponding subordinate ledger, and he should learn this for himself by figuring the balances on all subordinate ledgers and making the comparison.

It is obvious that a dishonest clerk could on the sales books extend debits to customers for less than the actual amount of the sales, and then, if he also had the handling of the cash, could divert to his own use the difference between the amount of payment when the bill was actually paid and the amount standing on the books. If no system of internal check is provided to preclude this, the auditor should see that extensions are properly made. It is not, however, his duty to compare prices entered on bills with the actual selling price; for he has the right

to assume that at least this much is done by someone in authority within the business itself.

Sometimes it is necessary for an auditor to follow an item from an auxiliary book into a book of original entry so as to make sure that part of the property of the business has not disappeared without due debit to some personal account. This should be done for the shipping book, for instance. This is called "tracing."

Let us now turn to the specific books. It is customary to begin an examination with the cash book, for as this is the most general book it soonest gives the auditor a grasp of the business under examination. The first step is to draw off a summary of the cash book by months for the period under review. For each month there should be taken the balance at the beginning, the total debits, the total credits, and the resulting balance at the close. Next, the auditor should do the same for the check book—or the combined result for all the check books if more than one is in use,—that is, the balance at the beginning, the deposits, the withdrawals, and the balance at the close. Finally, the same sort of thing should be done for the bank pass book,—that is, the opening balance, the deposits, the checks returned, and the closing balance.

It is obvious that these three books will not necessarily agree, for very often checks will not be drawn for all payments, not all receipts will have been immediately deposited, and not all checks drawn will necessarily have been presented at the bank before the pass book is balanced. It is necessary, therefore,

that these three statements shall be reconciled—that is, that a statement shall be drawn up for each month showing what items appearing in any one of these books have not yet appeared on the others. It might seem at first as if the only thing necessary for the audit is to make a reconciliation for the end of the period under audit; for of course if things are correct at the end of the time they are presumably correct in the intervening months. This would be true if one could be absolutely sure that no fraud had been committed; but since a discrepancy in some months might be made up in later months, and some person having control of cash might have been using funds of the business for his own purposes in the interim, it is desirable to see for each month just what are the differences among these three books. In making this reconciliation it is necessary to examine the checks returned by the bank as paid; and since it is necessary also to use these same checks as vouchers for cash payments, it is well, so far as possible, to perform the two operations at once. It is likely to be worth while, therefore, to compare checks with the cash book entries before undertaking the final reconciliation between the check book, the pass book, and the cash book. We will proceed, therefore, to compare checks with the cash book credit entries.

As has already been suggested, it is desirable that all payments of cash which are to be entered on the primary cash book shall be made through the medium of checks; if any payments and receipts are made in currency, they may be entered preferably on the petty cash book. If that is done, the checks returned by the bank as paid should agree exactly, ex-



cept so far as any checks are outstanding, with the cash book credit items. This makes comparatively simple the task of reconciliation. When currency as well as checks is entered on the cash book, two kinds of cash must be considered in making the reconciliations. It is desirable in that case to tick in the cash book all payments by check when they are found to agree with checks returned by the bank. This is not a laborious task if the auditor takes the returned checks in consecutive order and compares them with the cash book credits, checking the cash book as he goes along. The order is necessarily the same for both checks and entries, of course. It is not enough, however, for the auditor to see that the amounts of checks agree with cash book credits; he must also note whether the payees of the checks and the endorsers are the same as the persons indicated in the cash book entries as the proper recipients of the money; for one method of fraud is to debit a check on the books to the proper account, but to make out the check to the wrong payee—for the benefit of the defaulting employee. Such an operation would not be disclosed by any error in the books except as the balances of the accounts concerned might chance to be investigated. If the cash book is kept so that discounts are entered *contra*—that is, on the opposite side,—the auditor should look to see that the amount of discount is entered on the receipts side of the cash book so as to produce a net credit to cash of only the amount actually paid as shown by the returned check.

So far our examination of the cash book has been for the purpose of learning whether the checks re-

turned show that the cash book entries faithfully record actual payments. We may postpone until later the examination of the justification for those actual payments.

When all payments by check have been in this fashion examined, and the checks themselves stand as accepted vouchers, the task of direct reconciliation with the check book and the pass book may begin. One source of difference is the fact that the cash book may contain currency payments which are not, of course, on the check book or the pass book. Again, checks which have not yet been presented at the bank for payment will appear on the cash book and the check book but not on the pass book. Finally, checks drawn in the previous month, but not during that month presented for payment at the bank, but presented during the current month, will be on the pass book but not, of course, among this month's items of the cash book and the check book. The reconciliation among these books may be provided by arranging a table with a column for each book and a horizontal line for each separate item on any book. Then the first column may be for the cash book, the second for the check book, and the third for the pass book. If the first line is meant to contain payments, in the cash-book column will be the total credits; in the check-book column, the checks drawn; and, in the pass-book column, the checks charged against the business by the bank. These are likely, for the reasons already given, to fail of agreement. If, now, we add in red ink in the column for each book the items omitted from that book but contained in the other books, the totals of the three columns should agree.

Thus, currency paid is included in the cash book credits, but since it is not on the check book and the pass book it is inserted in those columns in red ink. This month's checks not yet paid by the bank are on the cash book and the check book, but are not on the pass book, and, therefore, should be extended in red ink in the pass-book column. Checks entered in the cash book and the check book last month but only this month charged by the bank on the pass book will be entered in the cash-book column and the check-book column, because this amount is necessary to put the other books on a basis with the pass book. An illustration of such a reconciliation is given below.

	Cash Book	Check Book	Pass Book
Disbursements	\$27,201.25	\$27,154.37	\$27,004.37
Currency items	.....	46.88	46.88
Checks outstanding	.....	.....	1,117.50
Checks of previous months	967.50	967.50	.....
	<u>\$28,168.75</u>	<u>\$28,168.75</u>	<u>\$28,168.75</u>

As this reconciliation is prepared for each month the auditor should make a list of all differences appearing in that month,—that is, for example, list all checks entered in the check book not in that month returned by the bank. When these items appear later, they may be checked on that list, and thus he will know whether all discrepancies are accounted for; any not accounted for by the reconciliations need further examination. It is difficult to exaggerate the value of such lists. It seems to the novice as if time spent in making lists of things which ultimately are to be cancelled is to great extent a waste. This would be true if one could always know that the



items would be later cancelled; but since the purpose of an audit is to make sure that everything is properly provided for, any time spent in making such lists is nothing less than an ultimate saving. Such lists, moreover, should be given a very clear title; a list of which the purpose is not clear is sometimes worse than no list at all, for sometimes to find out just what it is designed to do takes longer than constructing a new list. Many a bookkeeper has spent fruitless hours in hunting for memoranda which were not properly labeled, or in trying to find the exact use of memoranda at hand.

When this reconciliation of cash book, check book, and pass book has been completed for disbursements, and a list made of all unexplained discrepancies, the auditor should turn his attention to the receipts side of cash. He should see that all receipts have been accounted for, month by month. A reconciliation is necessary. The differences among the three books are likely to be mainly items on the cash book which have not yet been deposited (particularly receipts of the last day of the month after the customary hour for making deposits), and, if the custom does not prevail in that business of making all payments through the bank, a working balance of cash in the cash drawer. The check book should contain few deposits that are not in the cash book for that month; but the pass book may contain interest on deposits, if any is allowed by the bank, and this will be in excess of amounts shown in the cash book and the check book for that month. A reconciliation form is shown below.

	Cash Book	Check Book	Pass Book
Receipts	\$23,210.27	\$23,318.43	\$23,328.73
Receipts not deposited	.....	109.10	109.10
Deposit of previous month's receipts	217.26	.....	.....
Interest on bank balances	10.30	10.30	.....
	<u>\$23,437.83</u>	<u>\$23,437.83</u>	<u>\$23,437.83</u>

The auditor should watch deposits with extreme care. He should recommend that whenever a deposit is made a duplicate deposit slip shall be returned by the bank with some sort of receipt; then one may know not only how much has been deposited each day, but the amount of each separate check. Many defaulters have covered their tracks for long periods of time by borrowing from the future, as has already been indicated; they borrow today's remittances, before they have been entered on the books, to cover yesterday's shortage; but though they have provided that the deposits for each day correspond in total with the amounts naturally to be deposited, as shown by the cash book, they are seldom able to borrow checks of just the same detailed amounts, and examination of their detailed deposit slips would have disclosed discrepancies. For this reason it is well to have certified duplicate deposit slips. The auditor ought, moreover, to make sure that the pass book presented to him is genuine, for defaulters have sometimes covered their tracks by presenting for examination a pass book written up by themselves and not corresponding with the pass book provided by the bank. The auditor should demand either that the pass book shall be certified by the bank or that he himself shall receive the book in person from the bank.

Since an audit cannot usually be completed within two or three days, the auditor can often secure, from the bank, checks reported on his reconciliation as outstanding at the time of beginning the audit. These should be audited, for on the books they reduce the required cash balance; and unless the auditor can audit them he has no assurance that cash was actually paid as indicated. It has happened in the past that defalcations have been hidden by a combination of fraudulent entries of which a part were on the stubs of check books, making things look as if checks had been drawn and were outstanding at the time of audit. If an entry is made on the cash book as if a payment were made, and then on the check book the bank balance is reduced (by a fictitious stub), the auditor expects to find the cash balance by the books smaller than the amount shown by the pass book. If then the bank balance is padded by a fictitious pass book, or by deposits borrowed from the future, cash book, check book, and pass book agree. This does not enable the cashier to extract cash, of course; but it does cover up shortages in cash previously taken; for it reduces the cash balance, and appears to explain why no vouchers, in the form of checks returned by the bank, are at hand for that reduction. It substitutes an imaginary loss of cash for a real one. Only a certification of the pass book, or the later auditing of outstanding checks, or certified duplicate deposit slips, can sufficiently safeguard a business against this sort of thing.

So far our examination of the cash book has been for the purpose of learning whether the actual cash handled has been accounted for. We may now ex-



amine the methods of learning whether the right amounts of cash have been handled. Cash disbursements on notes, bonds, mortgages, interest, etc., should be compared with the original records so that one can be sure that the amounts entered are proper, and the vouchers should be examined. Payments for the purchase of stocks and bonds should be compared carefully with the broker's memorandum of purchase, for since the price of securities is fluctuating hour by hour the possibility of fraud in that connection is very great, and only when the amount has been vouched by some responsible person can it be passed by the auditor. Payments for the purchase of real estate should be compared with the deeds; the memorandum of record by the proper recording official should be examined,—especially to see that the date is as it should be; and the auditor should see that the title to the deed stands in the name of the business or of some person authorized to hold for the business. For all payments which require the vote of the directors of a corporation, the auditor should examine the minutes of the directors' meetings to see that proper authorization was given. Among such payments are those of dividends, and the auditor should see that the amount of dividends is the proper percentage on the capital stock. He should examine the dividend books and dividend checks to see that the proper amounts were paid to each stockholder; for otherwise it might be possible for a dishonest employee to reduce the dividend check of some person not likely to keep informed as to the amount of dividends and deflect the deficiency to someone who would share the gain with him. Payments of salaries

determined by vote of directors should be compared with the minutes of such vote. Payments of wages should be compared with the pay roll, and the auditor should see that the pay roll has been properly approved by an officer in authority; and he should for test purposes compare two or three pay rolls in each year's work with the time books and thus ascertain that there has been no padding or carelessness in determining the amount for each employee. Of course all entries of payments for merchandise, supplies, etc., should be compared with the original receipted bills or other vouchers. It has already been suggested that one method of deflecting cash to wrong usage is to debit a creditor for the full face of a bill even though a sum smaller (because of discount or returned goods) should have been paid. It is the auditor's business, therefore, whenever payments have been made on items which may have been subject to discount, to learn whether discounts were available on those payments, and to see whether, if the full charge was made, the creditor has been debited too much and someone has appropriated the excess. When the auditor cannot find vouchers he should ask someone in authority to give him a signed statement as to the legitimacy of payments. This would apply, of course, to petty cash items, as well as to general items. The auditor should make a list of all items which he cannot properly vouch, and on that list he should indicate what sort of voucher, if any, is available, and in what sense it is not adequate. This list he should submit to his clients.

It is seldom possible to get adequate vouchers for cash receipts. Usually the only thing that can be



done is to compare the receipts entered on the cash book with entries in the other books and judge in that way whether the amount is proper. Since much information of this sort is got usually from the ledger, and since all postings ought sooner or later to be checked, it is well to combine the two processes and check into the ledger as one goes along. For payments by customers, for example, it is well for the auditor to look up the customers' accounts in the ledger and see whether the amount is correct; and while he is engaged in that task he may well check the posting of the receipt. This saves the turning of pages when finally the checking of all postings is to be completed. In this work of checking receipts from customers, the auditor should note carefully whether discounts entered on the cash book, as allowed on bills collected, agree with the terms of sale; for it is comparatively easy for a cashier having access to the books to give a customer credit for a discount when none was allowed and deflect to his own pocket the extra amount of cash actually paid by the customer over the net amount of the bill. When the full amount of bills is entered on one side of the cash book, and discount on the other, the auditor should note whether deposits cover the full amount reported as actually paid. If he finds deductions from bills because of returned sales, he should confirm such returns by the receiving book. He should also verify all receipts from interest, rents, mortgage payments, etc., and see that Cash was debited for the full amount called for by the debt. He should see also that receipts from cash sales, as entered on the cash book, agree with the amount shown



on the sales book. When notes have been sold and have not been entered on the cash book, the bill book should disclose their existence. If such notes have been omitted from that book also, but have been discounted with the bank where deposits are kept, the proceeds will show on the pass book, and the discrepancy in the reconciliation will disclose the issue. Otherwise no way can be found of surely detecting such omissions from the books. When any notes have been discounted, the auditor should see that the net amount of cash reported is the full actual proceeds and not a smaller sum which leaves a margin for embezzlement.

The auditor should examine the extension of all cash items into special columns and make sure that none are included in wrong totals. When all items on the cash book have been passed, the footings of the book should be figured, the balance determined, and the posting checked into the general ledger (or, if cash is not posted, the cash item on the trial balance checked).

When counting cash it is desirable to make a memorandum of the specific items counted—so that none may be presented a second time. This list should include the amount of each denomination of cash, any so-called “cash items” (with full memorandum for later identification), and all checks awaiting deposit. “Cash items,” which are mere memoranda of temporary loan, cash in transit, etc., should not be passed unless they have been vouched by some person in authority.

The auditor naturally proceeds next to the journal. Since journal items are likely to be few in

number and scattered through the general ledger, a considerable waste of labor in turning pages is likely to be avoided if the postings are checked in a somewhat peculiar order. It is usually wise after the first journal entry is checked in the ledger to note, while the ledger is open at that account, what other journal entries are posted to that account, and then check these in the journal before checking the second journal entry. The method, therefore, is to check the first journal entry from the journal to the ledger; to check all other postings of that account in the ledger back into the journal; to check the second journal posting into the ledger; to check back into the journal all other postings from the journal to that ledger account; and so on until all ledger items have been checked. The finding of journal entries for ledger accounts is usually much less work than the finding of ledger accounts from journal entries; for, whereas the ledger may cover many hundred pages, and checking to it may involve much turning of leaves, the journal is likely to cover a comparatively small number and so items can be easily found. In auditing journal items the same precautions should be followed as in auditing items appearing on the cash book. In addition, however, certain items are likely to require certification by officers in authority. Charges to Bad Debts, for instance, should be authorized; else, as we have seen, they may be substituted for Cash. Many journal items are likely to be transfers and to involve adjustments. For these no adequate vouchers can usually be found; and, therefore, it is wise for the auditor to request that all journal entries be signed by the person having the proper

authority, or that such person give him a certificate that the signer accepts responsibility for the correctness of the entry. If the person who should authorize the entry is not sure that it is correct, he should ask the auditor's judgment on the matter, and then he may, if he desires, indicate on his certificate that the entry was made on the advice of the auditor; but in any case the auditor should demand that some person in authority be responsible for truthful representation of the circumstances which gave rise to the entry. The auditor will do well to make a copy of all items relating to bonds, stocks, capital, and closing entries for the determination and disposition of profits; for as these are matters which should enter into the report made to his client, he may well have copies in his working papers and not be forced to rely on the original books. The auditor should observe that the total debits, as shown by the journal, equal the total credits. If there are special columns in the journal, he should go over all the footings; and he must by checking, of course, see that all items are properly posted.

The order to be followed in auditing the other books is not of much consequence. We may well take them here chronologically.

The first is the order book to indicate what orders have been issued for the purchase of supplies and merchandise. If this book is properly kept, no purchases are authorized unless they first appear here. The auditor will use it, therefore, for confirming purchases.

If a receiving book is kept, the auditor should compare the record of goods received with the pur-



chase book and make sure that all receipts have been properly debited to Supplies or Merchandise and credited to the shippers.

The purchase book should be examined to see whether any items appear there which have not already been checked as confirmed by the order book and the receiving book, whether items have been properly distributed to various departments (if purchases are debited to more than one account), whether the footings have been properly taken, whether (if there are several purchase accounts) the cross-footing of totals agrees with the total of all purchases, and whether postings have been properly made to the general ledger. It is not always necessary for the auditor to check purchases into the purchase ledger; for if all purchases have been properly credited to Creditors, and the balance of creditors' accounts in the purchase ledger agrees with Creditors in the general ledger, it is presumable that these accounts are correct in detail. The chief possibility of error is that some item will get upon a wrong account. This may be provided against by communication with creditors, as will be shown later.

If a separate book is kept for returned purchases, this should be examined very much as the purchase book is examined, by the method above described. Such returned purchases should be entered in a shipments book. This will furnish the confirmation for the debits to creditors' accounts; and the total of such returned purchases should be, of course, debited to Creditors in the general ledger. These may well be checked into the creditors' ledger as a protection against overstatement of cash payments—unless this

has already been provided against by the method suggested for auditing cash disbursements (page 424).

A thorough examination of the stock book, if any such is kept, is likely to be a considerable task, but it should not be shirked if a complete audit is desired. It is impossible, of course, for the auditor to go behind the inventory for the beginning of the period under audit, but he should require that this inventory be presented to him and that it bear the signature of someone in authority who accepts it as of the beginning of the period. If the receiving book shows, as it should, all receipts since that inventory, and the shipping book shows all shipments since that inventory, the auditor has in his own hands the means of determining the present inventory. If, on the other hand, the books cannot be kept on this careful plan—because, for instance, goods come in and out without passage through the receiving and shipping rooms,—the auditor cannot learn the gradual changes in the stock on hand and must fall back on an inventory at the end of the period. For this, however, he should demand the signature of someone in authority. He should test the prices by recent invoices. In many lines of business in which it is customary to fix prices at a certain percentage of cost, one can from the sales alone approximate the cost of the goods sold. By combining the inventory at the start, the purchases, and the presumable cost of the goods sold, one can get the present inventory. This, of course, can be nothing more than an approximation; but it may serve as a check on radically erroneous statements of present stock.

Where possible, the sales book should be compared with the shipping book so as to show whether all the goods shipped were charged to customers. The auditor should verify the extensions of price and thus make sure that no error was made in charging a customer less than the proper amount; he should verify the footings of the sales book, and should check the postings to the general ledger—both for the debit to Customers and for the credit to Merchandise. It is not always necessary to check the postings to the sales ledger, for the examination of customers' accounts, to be considered later, may obviate this.

If a book is kept for goods shipped on approval, this should be examined carefully to see whether it contains all items marked on the shipments book as for this purpose, and whether all items shown by it to have been retained have been properly debited on the sales book. Goods returned, as shown by this approvals book, should be traced into the receiving book. If any items of long standing on this book have been neither returned, as shown by the receiving book, nor debited on the sales book, an investigation should be made. All such items should be listed.

If a separate book is kept for C. O. D. items, the amounts should be traced into the sales book to see that all items have been accounted for.

Let us now turn to the ledgers. For the general ledger it is necessary to go over all postings to make sure that all items have been checked as agreeing with some book of original entry. If any remain unchecked, they should be listed for future reference. Memorandum should be made of any ap-



parent irregularities. The balance of each account should be figured, and the result should be checked to the trial balance.

If controlling accounts have been accurately kept to represent dealings with creditors and customers, the balance of each particular account of a creditor or a customer is not of primary importance for an auditor; for any discrepancies must lie in an overstatement of one account offset by an understatement of another. Since, however, there is opportunity for embezzlement through omission of receipts from both the controlling account and the subordinate ledger accounts, it is the auditor's business to get confirmation for the books through the subordinate-ledger balances. It is desirable to have from all persons with whom the business has relations an occasional confirmation of their accounts. It is well, therefore, for the auditor to send to all creditors and to all customers at the time of beginning an audit a statement showing the balance on their accounts as the books then stand, and to ask for a return of the statement endorsed as correct. Though usually not all such statements will be returned, if this work is done at annual audits each account is likely to be confirmed at least once in two or three years, and the possibility of this is a good check on clerks with dishonest tendencies. It should be understood, of course, that an auditor has no right to send out requests for confirmation without the consent of his client. The task of making statements for confirmation is not so great as might at first sight appear, for the regular monthly statements may be utilized for this purpose. If the auditor accepts the statements

prepared by the bookkeeper, compares them with the books, puts upon them a private mark which cannot be duplicated by the bookkeepers, and then requests that this particular statement—and not another which may be substituted for it—be returned to the *auditor's* own address, the check is complete. For the auditor's private mark he may provide a rubber stamp with some characteristic that is not easily observed by the uninitiated—such, for instance, as slight flaws or irregularities (cut in the letters) which could hardly be detected by anyone not in the secret.

If this test by calling for confirmation is not feasible to apply, the auditor should check all postings of the purchase ledger and sales ledger from the books of original entry. A bookkeeper knowing that this will be done is little likely to substitute a debit to a customer for a debit to cash.

We now assume that the books have been carefully examined to learn that all expenditures have been properly vouched for, that all receipts have been properly credited, that all postings have been made to the ledger, and that all balances have been properly figured. If during the process of the audit all items have been checked when verified, examined, or posted, no item should remain either in a book of original entry or in the ledger without the auditor's private check mark or a memorandum calling attention to its irregularity. When this work is supposed to be complete, all the books should be examined finally for assurance that each item does actually bear its proper check marks. Several kinds of check marks should be used, for otherwise a check

given for one purpose may be interpreted as for another. Cash book items, for instance, are likely to need three kinds of marks—one for bank verification, one for vouching, and one for posting.

If the auditor finds in the course of his work that some errors of accounting have been made, he should merely make memoranda of the necessary adjustments and postpone the correcting entries until his examination is complete; for he may later find countervailing facts which alter his first conclusions. Mere bookkeeping errors he should correct as he goes along, however,—though not without authority.

If when the examination of the books is supposed to be complete a new trial balance is taken directly from the books and the totals of all books posted in lump sum are copied into the working papers, the present figures should agree with the figures originally taken off at the beginning of the audit (allowing for the adjustments made during the course of the audit or at its close). If a discrepancy persists between the original figures and the final working figures (after allowing for the adjustments), obviously someone has been tampering with the books during the course of the audit, and the figures which show a discrepancy should be examined so that the auditor may learn who has been making unauthorized changes.

We are now supposing the audit to have progressed so far as to vouch for the correctness of the bookkeeping. The auditor's next task is to pass judgment upon matters of accounting which have not already arisen in connection with the examination of the bookkeeping. Let us take first the con-



siderations involved in passing upon a balance sheet. We may as well take these in alphabetical order.

The auditor should see that accounts payable reported are for legitimate debts, and that no invoices which have been once paid are included; invoices should bear dates that are properly related to the present time.

He should see that accounts receivable reported are in conformity with the original charges, and that included among them are not debts so long overdue that presumably no collection can be made on them. Allowance must be made for discounts offered and for probable bad debts.

If bonds are outstanding and any trustee has been appointed as a registrar, the auditor should secure from the trustee a certificate to the effect that only as many bonds are outstanding as are reported on the balance sheet. If any bonds owned are reported as deposited for collateral, the auditor should procure from the holders a certificate showing just what is so held.

The auditor should make sure that all bills receivable presented to him as good assets are genuine, and that they are presumably good. In order to make his work complete he should seek from the makers and endorsers of such notes confirmation as to their amount and genuineness. Unsecured notes long overdue should not be considered as good assets, but should be charged back to those from whom the business took them—and possibly the resulting book accounts should be closed out to Bad Debts. If any notes have been discounted or turned over to banks for collection, and are therefore not in the posses-

sion of the business, the auditor should get from the banks holding such notes certification of their amount, makers, and dates.

Since the auditor cannot ordinarily know how good are the book debts and the notes of any business, he may well demand from someone in authority a written statement as to their probable value. If any reserve has been set aside for doubtful debts, he may base on that statement his judgment concerning the adequacy of that reserve.

If any trust company or other outside agency is registrar for capital stock issued, the auditor should require from such agent a certificate as to the amount of stock outstanding, and should see that it is reported on the balance sheet at that figure.

If any claims are reported among the assets, he should see that allowance has been made for any which are disputed, and that only those presumably collectible are counted.

If any securities are shown to him as collateral for debts held by the business, the auditor should by communication with the owners of the securities learn whether they are correctly reported as pledged for the debt concerned.

If the business maintains branches, the auditor must watch carefully to see that the accounts are not so mixed as to count assets twice and liabilities not at all. If, for instance, the branch buys goods of the main house and gives its notes in payment, fraudulent accounting might report the merchandise as an asset for each house, the Bills Receivable as an asset of the main house, but the Bills Payable not at all. For each of these, good ground can be found; but no

ground can be found for all of them at once. The merchandise is an asset for either house, but not for both; the Bills Receivable is an asset for the main house, but then the Bills Payable is a liability of the branch; the Bills Payable may be neglected as a liability, for it is purely internal, but then the Bills Receivable must not be counted as an asset. In other words, the two sets of books must be absolutely distinct or absolutely consolidated.

The auditor should examine the minutes of a corporation to learn whether any liabilities incurred have been omitted from the balance sheet. If the corporation is new, moreover, he should inspect all prospectuses and other promises made to persons invited to subscribe to stock, and should observe whether any promises have failed of fulfillment.

The auditor should make sure that all dividends declared and matured have been paid, or that the amount unpaid remains as a liability shown on the balance sheet. If, as is commonly done, a corporation makes a special bank deposit to cover the payment of dividends, the unexpended balance of that account represents the unpaid dividends; and, therefore, the dividends do not need to appear as liabilities if that bank balance is not included among the assets; but if the bank balance is so included in cash, the dividends must appear as a liability. The same thing is true for unpaid interest on bonds outstanding. For coupon bonds, the unredeemed matured coupons measure the liability.

The auditor should demand of a person in authority a certificate that the assets shown on the books as plant, machinery, and other things not sus-



ceptible of adequate valuations at sight by the auditor, are actually in possession of the company and unimpaired—or that the amount of depreciation allowed, either in a fund or as a liability, is adequate to cover shrinkage.

He will do well to learn from the records of deeds whether any mortgages have been issued.

In case a corporation has issued income bonds of a cumulative sort (that is, bonds which, though they yield interest only if the interest is earned in the years covered, yet demand the payment of interest in later years to offset the failure of interest in the lean years) or cumulative preferred stock (which requires that dividends not paid in one year shall be made up out of later earnings before common stock shall pay dividends), the report of the corporation should show any such arrears. These arrears are not direct liabilities, however, for they are not claims against the company until earnings have been made; in other words, they are not claims against the company in any way to affect its solvency; and since the purpose of a balance sheet is primarily to show solvency, they do not need to appear among the liabilities. They may well be given in a footnote or in an appended statement, however, for they do affect the investment value of the stocks and bonds.

The auditor should examine the income sheet and see that the charges bear correct relation to the parts of the business which cause them. Depreciation charged on the income sheet should agree in amount with the depreciation deducted from assets. Interest on the income sheet should bear the correct relation to investments and to interest-bearing debts

outstanding. Allowance for bad debts deducted from gross earnings should agree with the changes shown on the balance sheet. Accrued items on the balance sheet should be included in the totals of income-sheet earnings and expenses. The income sheet final balances should be included in balance-sheet balances. The income sheet and the balance sheet must be consistent, for they are different statements for the same final result—as we saw on a six-column statement.

Let us now turn to the auditor's report. He should state in the first place what work he has actually done, that is, what sort of audit he has conducted, and if he has been requested by anyone in authority to omit any work ordinarily done, or has been excused from such work, he should note in his report that omission. He should never in his conclusions state what are to him mere opinions. His task is to learn the facts about the books and about the business, and to state whether the books show the facts as they appear to him to be. He may state his opinion with regard to allowances for depreciation, bad debts, etc., but those are opinions only in the sense that they are matters of judgment; but he should not state an opinion as to the management of the business or the honesty of those conducting it until that opinion has become practically a certainty based upon proof which he can present. If he reports all material facts, including a statement of all irregularities, as has been suggested, his clients are likely to be in a better position than he to form mere opinions. Clients usually welcome suggestions for improved methods, however. In other words, the

auditor's work should be constructive rather than destructive.

The auditor's report is supposed, usually, to show the condition of the business both at the beginning and at the end of the period under examination. He should therefore show a balance sheet for the two periods, or a combined balance sheet showing the figures for the beginning and the end, with the increases or decreases. He should show also a summary of important balance-sheet changes arranged somewhat after the fashion of the table given on page 341. He should show not only the income sheet, but a clear statement of the disposition of the income—to dividends, surplus, and other reserves. Matters which are largely determined by judgment should be presented in the report in such form that others having slightly different bases of judgment may be enabled to draw their own conclusions. The auditor should therefore append to his report a list of bad debts charged off, of bills receivable, of accounts receivable, and a statement of the amount of inventory and the basis on which it was verified. He should add a statement of bills payable and, if it is likely to prove of any value to readers of the report, of the accounts payable. He may well add a list of securities owned, of delinquent debtors, and, if his audit is primarily for the purpose of detecting dishonesty, a list of outstanding checks. He should in all cases append a list of missing checks and of missing vouchers.

Let us turn now to the matter of examinations for creditors or possible investors. If a client who requests an examination is willing to pay for a complete audit, and the persons whose business is under



examination do not object, this is usually desirable. If, however, this is not feasible, much work necessary for a complete audit may be omitted in this examination. The purpose of an examination is to learn whether the assets are real and whether the profits are as represented. The examination need ordinarily go no farther than to ascertain these facts. The auditor is not expected to vouch for the honesty of employees or officers.

The auditor will naturally begin by making a copy of the trial balance for the beginning and for the end of the period under examination. A comparison of these will furnish a summary of the business. It may be worth while to make a complete copy of each property account, for then he will know what expenditures have been made on its behalf, and what receipts have accrued from it. The next step is for the auditor to make sure that the trial balance faithfully represents the ledger. He should go through the ledger carefully, take footings and balances, and see that the trial balance figures correspond.

The next task is for the auditor to examine the reality of the assets, and this should be done in the main as it is done for a complete audit. He should note, moreover, that the future has not been anticipated—for instance, by the premature cutting of coupons on bonds. Some assets, however, do not need in this case examination quite so careful as is required where the purpose of the audit is to learn whether fraud has been committed by employees. If the proprietor is willing to certify to a list of accounts receivable as legitimate debts due to the business, it is hardly necessary for the auditor to conduct

an audit of the customers' ledger—unless, indeed, he thinks that the proprietor may be committing an innocent error due to the fraud of his own employees. In that case, the auditor will do well to investigate the accounts as suggested for a complete audit. It must be understood, however, that a man certifying to assets of his business, though he is liable both civilly and criminally for any intentional fraud, is not liable for errors due to lack of judgment. The auditor must therefore use such means as he has at his disposal for learning how much the book accounts are actually worth for collection purposes. He should go through them and report how many are overdue, how many are collectible from customers who in the past have proved not thoroughly reliable, and how many ought to be written off as bad debts.

The auditor should make a list of all assets after he has examined them as indicated for a complete audit, and should furnish a copy of that list to his client; for if the client is going to purchase an interest in the business, he should have in his possession information showing exactly what he has purchased. If this is not done, the auditor has not forestalled the possibility of a substitution of assets which (though it may be innocent and the proprietor may consider the assets substituted quite as good as those originally examined) may cause heavy loss to the client. This list should include security or collateral for all debts due to the business, insurance premiums prepaid, accrued interest and declared dividends, and certified inventories of merchandise.

The auditor should make a detailed list of liabilities; for otherwise liabilities may be foisted upon the

purchaser. These liabilities should be learned by the methods previously indicated.

The auditor should read through the cash book and the journal, even when he does not need to vouch them or check them with the ledger; for they may throw valuable light on the valuation of assets, the sources of profit, the causes of loss, and the methods previously in vogue for determining profit and loss. He should make note of all entries which cast doubt on the correctness of trial-balance figures.

He should be on the watch for the "salting" of assets and sales. He should realize that the purpose of the seller of a business, however honest he may be in intent, is to get as much for his business as he thinks it is worth and that an optimistic temperament is likely to see more value and profit than does a skeptical purchaser. The auditor must make sure, then, that the sales reported are actually sales. He should add the columns of the sales books and see that the proper amounts have gone to the ledger. He should add the columns of the purchase books and see that those are properly posted. He should do the same for returned sales and returned purchases. He may then wisely make tables showing the monthly totals of sales, purchases, returned sales, and returned purchases, for recent years, and thus learn whether any suspicious fluctuations have occurred,—having regard, of course, to the different activity of different seasons. A sudden and recent increase of sales suggests sales to persons of doubtful credit, or even fictitious sales—that is, sales to confederates with an understanding that goods may be returned later. A sudden and recent decline in



purchases suggests an exhaustion of stock or a postponement of entry for debts actually incurred. Special care should be taken to see that all goods inventoried have been entered as purchases. Sudden and recent increases in cash balances deserve investigation—lest they have arisen from liabilities not recorded.

The auditor should note any outside relations that the business has with members of the firm, with directors, and with their relatives and friends; for sometimes such relations are unprofitable, and sometimes, if profitable, they may cease when the business changes ownership.

Sometimes certain statistical information is of great value to a client in enabling him to judge whether a business is doing what it should. A table showing for a series of years the percentage of sales to capital (commonly called the “turnover”), of expenses to sales, of working capital to sales, of losses by bad debts to sales, will give an indication not only of the absolute standing of the business, but of its tendency.

The auditor should note whether all expenses have been actually charged—not only depreciation, but proprietors’ salaries and interest on proprietors’ capital.

The work of an auditor, in other words, comprises the practical application of all the principles which have been discussed in various connections in this book. An auditor must see not only that the book-keeping is correct, but that sound accounting principles are applied in all matters of judgment. No attempt has been made in this chapter to repeat the

principles of the preceding chapters. It is to be understood that wherever a principle is enunciated as covering original entries, it is equally applicable to the interpretation of those entries, and to an auditor's acceptance or rejection of them.

Many problems arising in an auditor's work are peculiar to the kind of business or the particular circumstances on which he happens to be at any time engaged. It is impossible in a book of this sort to cover all kinds of businesses and all circumstances. Problems are arising in auditing railroad accounts, for instance, gas company accounts, mining accounts, accounts of charitable institutions, which are unlike any here indicated; but except for the peculiarities of the transactions themselves or the forms of books in use, they will not be found to require the application of principles different from those given here. No man can expect to audit satisfactorily the books of any business unless he knows the nature of the work performed in the usual course of that business. The first step of an auditor should always be to familiarize himself with the business itself and with the books customarily used.

It must be realized by every bookkeeper, accountant, and auditor, that he stands in a relation to his client such that the information which comes to him through the books does not belong to him. He has no more right to use it for his own benefit, for the benefit of his friends, or even to tell it to another as a mere matter of interest, than he has to use for his own benefit or give or lend to another the merchandise, the cash, or the other property of his client. It is not enough for him to realize merely that he must

not make use of his information or turn it over to friends who may make use of it: he must realize that after information has once passed his lips he has no knowledge as to what may become of it. Though he tells business secrets only to acquaintances who he knows have absolutely no use for that information, he cannot know that those friends will not allow it also to escape them and become the property of another who may use less discretion in its spread. Information merely interesting sometimes spreads until it reaches someone who finds it profitable, or until its spread is harmful for the person originally concerned—especially if it be perverted in the spread. The only rule for a person concerned in the accounts of another is to say absolutely nothing about the information which he receives—even to members of his own immediate family.

If a bookkeeper, accountant, or auditor, learns from accounts that something is going on which has his hearty disapproval, so hearty that he cannot conscientiously have part in it even to the extent of being a silent witness, he must at once sever his connection with the firm concerned. Even then, however, he has no business to go out and tell his discovery unless he is sure that the facts which have come to his knowledge show criminality and require him to make disclosures to the officers of justice—disclosures which he is ready to repeat in open court and are conclusive evidence of legal offense,—and these disclosures should be made only to the officers of justice. A statement of suspicion is one of the most harmful statements that can possibly be made. He must say absolutely nothing or else come boldly



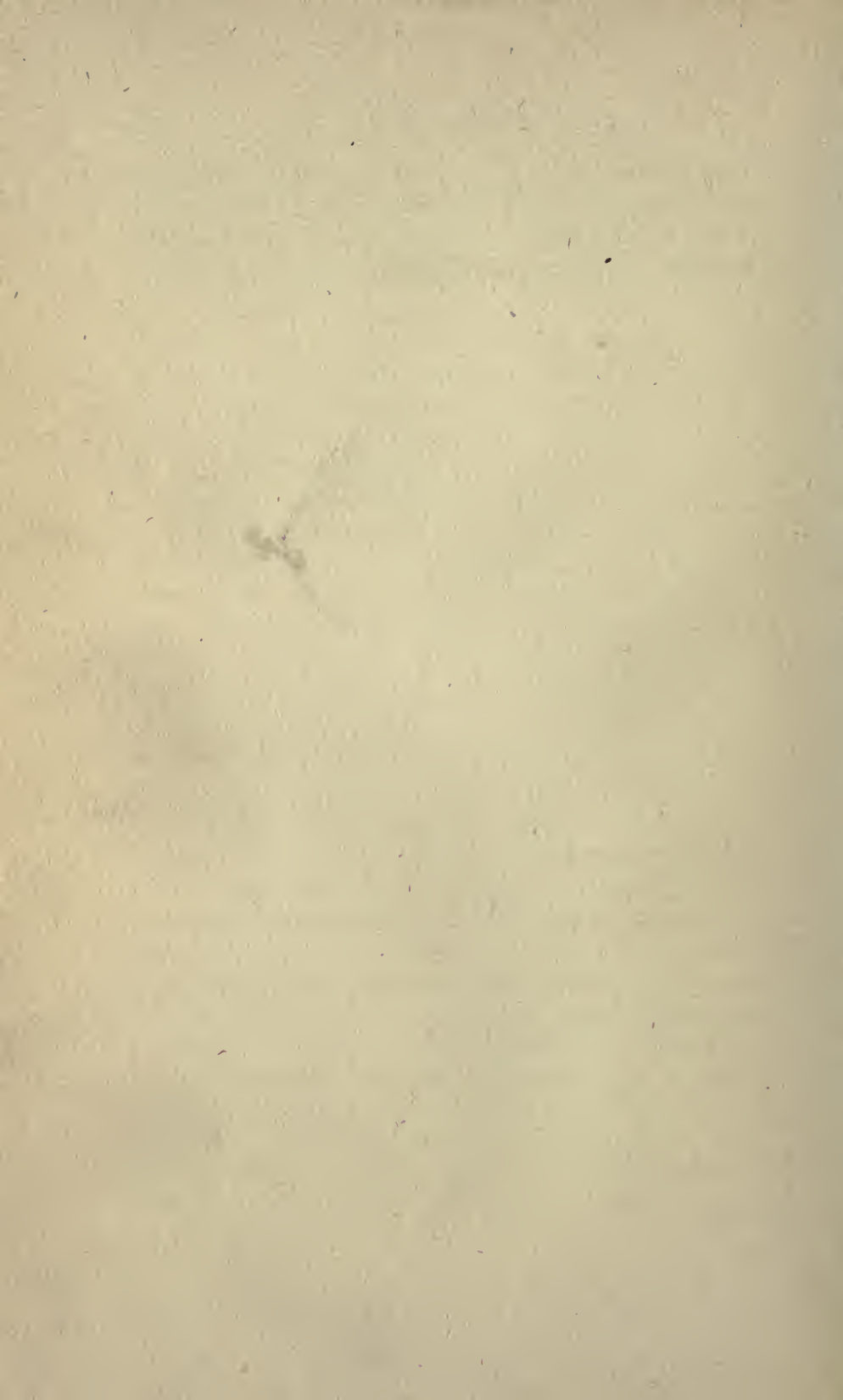
forward and help the authorities to punish the guilty; but he must be sure of his ground before he makes any attempt to bring to justice those whom he considers to be guilty. Indeed, it is the duty of an accountant, before going to any prosecuting officer, to state to his superiors what are his conclusions from the facts and give them opportunity to explain any possible misunderstandings. If, then, he is sure that legal or moral wrong has been committed, he should at once sever his connection with the firm. Whether he shall make disclosures is a matter for his private conscience. He must avoid, moreover, the possibility of being misunderstood,—must avoid not only blackmail, but the appearance of blackmail. He must not allow even the thought that he can be bought off. In no case should he give any slightest hint of criminality unless he has made up his mind that if his employers fail to explain things satisfactorily he will leave them. Then he must leave. To suggest suspicion to employers and then to keep still because of fear of losing his position, or because his salary is raised, or because his position is made more attractive, is the height of dishonor. In other words, no half-way is to be considered for a moment. The relations between employer and accountant are so confidential, moreover, that the community and even the courts look somewhat askance at anyone who violates such confidence. The informer should be sure before taking any steps toward prosecution that the community's need for his information more than offsets the other requirement of loyalty to private obligation.

It is obvious from what has been said that the

work of an accountant and auditor is not only mathematical but moral. Throughout his work he must realize that he is drawing lines of division, and that what lies on one side of a line may belong to one person while that lying on the other side belongs to another. Unless he has a judicial temper, the influence of those with whom he comes in contact is likely to overtop his sense of responsibility to those who are distant; and this he must not allow. Unless he has a philosophical mind, he will be unable to make important distinctions between things which on their faces are similar. Unless he has mathematical ability, he will be unable to perform necessary calculations. His integrity, moreover, must be absolute. It is for these reasons that accounting is coming to be recognized as a profession. The accountant's relation to his client is exactly the same as that of the physician and the lawyer. The accountant is taken into the client's confidence, and it must be known that he will keep his information to himself; he must have education and ability, or he will not be able to pass judgment in difficult problems; he must have the keen moral sense to realize that the purpose of accounting is to tell the truth, and that the truth is no respecter of persons, of interests, or of consequences. Of late years a strong movement has developed for the control of corporations, and the means of control most commonly recommended is such publicity that the community can know for each corporation whether it is good or evil. Such publicity requires the services of a large army not only of skilled accountants, but of accountants of integrity; and therefore the promise for the growth

of this profession is large. Anyone contemplating entrance into it, on the other hand, must realize not only the mental and moral attainment essential for it, but the great responsibility involved in the work.





# APPENDIX

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## TEST QUESTIONS

[These questions are not intended to cover all the ground of the text, nor are all the questions answered directly in the text. The purpose of these questions is to enable the student to see whether he has done his studying with sufficient thoughtful care, and to suggest to him the sort of problems he should make up for himself. A few questions given here can be answered by reference to the proper paragraphs in the chapters to which they apply; but most of them require a putting-together of separate ideas expressed in the text—involving a comparison, or a correlation, or a new application.]

### CHAPTER I. INTRODUCTION. (Pages 13-17.)

1. What is the difference between bookkeeping and accounting?
2. Can rules of thumb be given for the solution of accounting problems?
3. Are accounting principles to be used before the bookkeeping entries are made, after such entries, or both before and after?
4. What are the three fundamental principles of bookkeeping?

### CHAPTER II. DEBIT AND CREDIT. (Pages 19-32.)

1. Shall we debit or credit John Doe when he gives us his note for the payment of a debt due us?

2. Shall we debit or credit Cash when we pay for merchandise?

3. Shall we debit or credit Rent for sums paid to the business by tenants of property that it owns?

4. What is the function of property accounts in bookkeeping?

5. What is the function of nominal accounts in bookkeeping?

6. Why, in any system of logical bookkeeping, must there be a debit for every credit?

### CHAPTER III. THE METHOD OF ENTRY.

(Pages 33-48.)

1. What is the function of a ledger?

2. How do items get into a ledger?

3. Are any books absolutely necessary besides a journal and a ledger?

4. Is the modern journal usually voluminous?

5. What relation does the cash book bear to the journal?

6. Does double-entry bookkeeping require at least two postings for each transaction?

7. How far is the form of the double-entry cash book different from that of the parallel-column journal?

8. Why may not items go directly to the ledger without previous entry in another book?

9. If an entry has been made debiting Roe instead of Doe, how may it be corrected without erasure?



CHAPTER IV. THE COMMON LEDGER ACCOUNTS.

(Pages 49-107.)

1. Show, in the form of a simple journalization, what should be debited and what credited in each of the following cases:

Payment, by you, of wages in the form of merchandise.

Receipt, by you, of a bond which you have agreed to take in payment of an accepted draft.

Writing off a bad debt owed you by a customer.

Interest allowed you on your bank deposit.

A discovery that in an invoice of goods purchased to be sold as merchandise, and charged as merchandise, is included \$100 worth of office supplies, and \$100 worth of goods shipped to the proprietor's residence, and broken goods to the value of \$100.

Receipt of a promissory note for an account already written off as uncollectible.

2. What should be debited and what credited after each of the following transactions?

(a) Buying on credit, at the first of the year, stationery expected to last eight months.

(b) Paying for that stationery by issuing a note.

(c) Paying that note.

(d) Exchanging that stationery at cost (none being used) for merchandise.

(e) Selling that merchandise at cost and receiving a note in payment.

(f) Collecting cash for the note.

Now what is the *net* result, upon ledger balances, of all these transactions?

3. What transactions are most likely to have given rise to the following journalizations:

Interest	\$50	
To Cash		\$50
Adam Bede	1000	
Interest	50	
To Bills Payable		1050
Loss and Gain	450	
To Charles Darnay		450

4. (a) Jan. 1, X invests in a partnership a note of his wife, for \$5,000, due in one month. (b) Jan. 14, X exchanges the note for one of his own payable at the same time. (c) Jan. 25, X takes up his own note, leaving in exchange an accepted draft, due Feb. 1, on B, who is a creditor of the partnership. (d) Feb. 1, the debt of the firm to B becomes due, and B's acceptance is sent to him in payment.

Journalize the entries.

(e) In the meantime, B, not knowing that X is a member of the firm and that his acceptance will be used to cancel a debt to him, sends his check to X for payment of the acceptance. The two letters cross, and X, not knowing that the acceptance has been sent to B, turns in the check to the cashier, who misunderstands X and thinks the check is invested by X.

What entry will the cashier make?

(f) X discovers that the cashier has misunderstood him, and explains. The correct situation is discovered, is confirmed by a letter from B, and a check is sent to B, his check being already deposited.

What entry shall now be made to correct the books?

5. The transactions indicated below were journalized as in the entries below. Is the journalization correct in each case? If not, make a journalization to correct the error, assuming that the original journalization cannot be erased or displaced.

(a) Sold goods, on 5% commission, for Henry Esmond, to Arthur Pendennis, \$1000.

Arthur Pendennis	\$1000	
To Henry Esmond		\$950
Commission		50

(b) Stationery bought and paid for is returned, and the money paid is refunded.

Cash	25	
To Expense		25

(c) We discount at a bank our own note for \$500. The discount is \$7.

Bills Receivable	500	
Interest	7	
To Cash		507

(d) It is desired to split up the expense account into two accounts, with stationery items kept by themselves in a new account. The amount of the old items for the new account has been found, and the transfer is made on the journal.

Expense	50	
To Stationery		50

(e) While a new building is going up, the contractors receive advances of money on account of the final payment on the contract. The interest lost on these advances is a part of the cost to the owners. They wish to enter it so.

Interest	750	
To Real Estate		750

6. On which side of the ledger is the balance of the following accounts likely to be? What, in each case, does the amount of such a balance indicate?

Bills Receivable.  
Plant.  
Profit and Loss.  
Wages.

Merchandise.  
Rents.  
Commission.  
Surplus.



## CHAPTER V. THE PRACTICAL OPERATIONS OF BOOK-KEEPING. (Pages 109-138.)

1. How is it possible to divide an entry between two books so that some part is common to both books, and yet to avoid the danger of double posting of the common part?

2. In posting, how much of each entry should be written in the ledger?

3. How are balances shown on the cash book?

4. How are ledger balances shown?

5. What is the principle on which a special book, for example, the cash book, may have several special columns on each side?

6. What are the limitations on the use of special principal books and special columns?

## CHAPTER VI. DRAWING CONCLUSIONS FROM THE BOOKS. (Pages 139-173.)

1. How far does a trial balance that shows equal debits and credits prove that the books are correct?

2. (a) Show a six-column statement of the following facts:

Merchandise sold, \$43,000; merchandise bought, \$42,000; merchandise on hand, \$13,000; debts due by customers, \$15,000; debts due to creditors, \$12,000; proprietor's investment, \$45,000; expenses paid, \$11,000; expenses incurred but not yet paid, \$250; real estate valuation (unchanged during the year), \$40,000; bills payable, \$9,000; cash, \$1,000.

(b) Show the balance sheet for the new year.

3. Fill out the following incomplete six-column statement, using no figures not given or *implied*.

	Dr.	Cr.	Resources.	Liabilities.	Loss.	Gain.
Cash			20,000			
Office Furniture	3,000				500	
Expense	13,000				13,000	
Interest	500					50
Bills Receivable			5,000			
Bills Payable				2,000		
Accounts Receivable	3,000					
Accounts Payable		1,000				
Merchandise	20,000					21,000
Capital Stock						

Show the balance sheet for the new year, supposing no dividends to be declared.

4. The trial balance for the ledger shown below fails to prove. Find the trouble.

PROPRIETOR			
	Sundries		\$16,000.00
MERCHANDISE			
Cash	\$10,549.00	Aaron Burr	1,527.10
Bills Payable	1,648.00		
BILLS RECEIVABLE			
Proprietor	2,000.00	Aaron Burr	1,527.10
BILLS PAYABLE			
	Merchandise		1,684.00
CASH			
Proprietor	14,000.00	Merchandise	10,549.00
AARON BURR			
Merchandise	1,527.10	Bills Receivable	1,527.10

5. The figures below are what a bookkeeper finds on his books at the close of the year:

Capital Stock		\$169,000
Real Estate	\$70,000	
Mortgages Payable		55,000
Bills Payable		25,000
Bills Receivable	15,000	
Accounts Receivable	17,000	
Purchases	150,000	
Cash	7,000	
Expenses	15,000	
Interest	3,000	
Taxes	2,500	
Sales		30,500
	<hr/>	<hr/>
	\$279,500	\$279,500

He reports to the directors a balance sheet as follows:

Real Estate	\$63,000	Capital Stock	\$169,000
Bills Receivable	15,000	Mortgages Payable	55,000
Accounts Receivable	17,000	Bills Payable	25,000
Merchandise	130,000	Reserve for Bad Debts	4,250
Cash	7,000		
Profit and Loss	21,250		
	<hr/>		<hr/>
	\$253,250		\$253,250

Explain all apparent discrepancies between the two sets of figures.

6. Why, in a six-column statement, must the difference between resources and liabilities equal the difference between gains and losses?

7. In a proprietor's absence the books of a business are opened and kept by a bookkeeper who keeps accurate record of transactions reported to him but cannot be trusted to figure valuations or profits. At



the end of a year, the records show, before the books are closed and simply as the result of regular transactions, the following figures:

Proprietor's investment, \$100,000; Bills Payable, \$17,000; Bills Receivable, \$26,000; Real Estate, \$20,000; Accounts Payable, \$15,000; Accounts Receivable, \$20,000; Cash, \$5,000; Merchandise on hand, valued at cost, \$75,000; Merchandise Dr. on ledger, \$49,500; Expense, \$12,000; Interest balance received, \$500.

Now the proprietor returns and wishes to close his books for the year. If he needs any information not given above, what questions will he ask in obtaining it? Assume any fairly reasonable answers to such questions, if any, and then show what is the proprietor's present investment in the business.

#### CHAPTER VII. SOME HIGHLY DEVELOPED TYPES OF BOOKKEEPING. (Pages 175-212.)

1. What is a controlling account?
2. What are the advantages and the disadvantages of keeping a separate sales ledger?
3. Are postings made to controlling accounts from the books of original entry, or from the subordinate ledgers?
4. Why is not error introduced when discounts given are entered on the receipts side of the cash book?

5. What is the objection to "contra items" in the cash book?

6. Can books be kept without a journal?

7. Under the so-called "impressed" system of handling petty cash, what is represented by the balance of Petty Cash in the general ledger?

8. Under the voucher system, what is represented by the credit balance of Vouchers Payable?

#### CHAPTER VIII. THE PECULIARITIES OF CORPORATION ACCOUNTS. (Pages 213-237.)

1. What is the difference between Subscription and Stock Subscribed?

2. Is it advantageous to distinguish between Stock Subscribed and Capital Stock?

3. What is the proper entry for premium on the sale of stock?

4. Does it make any difference whether corporators donate shares to a corporation, or take fewer shares at a corresponding premium?

5. Should each of the following accounts show a debit or a credit balance: Good Will, Subscriptions to Stock, Dividends, Surplus? Why?

6. In combining proprietorships into a corporation, how is it customary to allow, on the books, for earning capacity, and to close proprietors' accounts?

7. Subscriptions at 75 are received for treasury stock having a par value of \$100. After the payment of one installment of the subscription, to the amount of \$25 a share, the subscriber defaults. What entry should be made on the books of the corporation at the time of forfeiture?

CHAPTER IX. PROPERTY OR EXPENSE?

(Pages 239-261.)

1. Are nominal accounts likely to be worth face value?

2. Can all the accounts of a business be nominal?

3. Can all the accounts of a business be real?

4. "Real Estate is a capital account, and Rent is a revenue account." How far is this statement true? If it is correct, what does it mean?

5. Which of the following should be charged to capital account and which to revenue account: the purchase of a patent right; legal fees for organizing a corporation; the purchase of a lease; repairs of machinery; replacement of machinery; the purchase of additional machinery; the loss by fire of uninsured property?

6. In a manufacturing business what accounts should you open and charge for the following expenditures? Should each of such accounts be treated at the end of the year as a capital account or as a revenue account?

Taxes on a piece of real estate held for possible extension of plant.

Wages of a chemist carrying on experiments for improvement of processes.

Contributions to an agency for gathering information about foreign markets.

Expense of maintaining an exhibit at an international exposition.

Compensation to the owner of a piece of land when a lease on that land is by mutual agreement canceled.



7. What is the test for determining the things that should be charged (1) to capital? (2) to revenue?

Is there any middle ground in which a charge may be made defensibly to either capital or revenue? If so, what defence is commonly offered for charging to each?

8. A new machine costing \$5,000 is bought to replace one that originally cost \$5,000, but is now worn out. The expense of operating the new machine will be only three-fourths that for the old. How much shall be charged to Maintenance at the time of replacement?

9. The new machine mentioned in question 8, above, is now supposed to cost \$7,000. The expense of operation will be the same as for the machine now worn out. How much shall be charged to Maintenance?

## CHAPTER X. DEPRECIATION. (Pages 263-280.)

1. What is the argument for figuring depreciation of machinery at a decreasing rate?

2. Suppose a piece of property has depreciated in value to the amount of \$1,000. Then \$3,000 is spent on it, making it so much better than it was originally that its earnings will be \$200 more than originally. How shall that \$3,000 be charged?

3. What is usually credited when Maintenance is charged?

4. What is usually credited when Depreciation is charged?

5. Should Maintenance go upon the income sheet or upon the balance sheet?

6. Should Depreciation go upon the income sheet or upon the balance sheet?

7. Which sheet is affected by the credit made when Depreciation is debited?

8. On Dec. 28, 1910, you buy a patent right under which you can manufacture and sell annually for five years in one state 1,000 desk attachments at a profit of one dollar each over the profit on the only unpatented marketable article.

(a) From the table below, determine as accurately as you can the theoretical value of that patent right when money is worth 5%.

Present worth of \$1 due in 6 years, at 5%.....	\$0.746215
Present worth of \$1 due in 5 years, at 5%.....	0.783526
Present worth of \$1 due in 4 years at 5%.....	0.822702
Present worth of \$1 due in 3 years at 5%.....	0.863838
Present worth of \$1 due in 2 years at 5%.....	0.907029
Present worth of \$1 due in 1 year, at 5%.....	0.952381

(b) Is your figure absolutely accurate for the theoretical value, or is it based on a calculable error? If the latter, how should you calculate the error?

(c) Shall that patent right appear on a balance sheet for Dec. 31, 1911, on an income sheet for 1911, on both, or on neither? If so, for what approximate amount?

## CHAPTER XI. PROFITS. (Pages 281-304.)

1. What ought books to show with regard to discounts (on merchandise) for prompt payments?

2. You are charged with "taking account of stock" in a store. The clerks give you the numbers and descriptions of articles, and the invoice book-keeper fills in prices as they appear on incoming bills. How far is this material adequate for an inventory?

3. In what sense is discount on bonds issued an asset?

4. Is it true that premium on bonds bought is an asset?

5. Is it true that premium on stock sold is profit?

6. How should you treat interest received on a bond bought above par?

7. Except for the items mentioned below, a corporation's balance sheets for 1909 and 1910 show the same figures. How much do these items tell about the history of the corporation for the year 1909-1910?

		1909	
		Surplus	\$70,000
		1910	
Depreciation Fund	\$20,000	General Reserve	60,000
		Depreciation Reserve	20,000
		Surplus	10,000

8. If in the case indicated in question 9 for Chapter 9 the whole \$7,000 was charged to Maintenance, would you call the \$2,000 excess cost of the new machine over the old a secret reserve?

## CHAPTER XII. THE INCOME SHEET.

(Pages 305-314.)

1. What is the relation between an income sheet and a balance sheet? Can an item appear upon both at the same time?



2. The following is a condensed trial balance of a partnership. The only inventory is for supplies, which amounts to \$25,000. No accrued or prepaid items are outstanding. Allow 10% depreciation on all accounts (except cash and supplies) representing property, 5% on all sums due the business from outside, credit the partners 5% interest on their investments, credit salaries to the partners at \$3,000 for A and \$2,000 for B, and then divide profit or loss equally between the partners. Show the income sheet.

A		\$40,000
B		20,000
Plant and Machinery	\$45,000	
Supplies	43,000	
Sales		95,000
Labor	30,000	
Expense	7,500	
Interest	600	
Discounts	1,250	
Fuel	3,000	
Insurance	1,150	
Freight	1,500	
Accounts Payable		9,000
Accounts Receivable	32,000	
Steam Earnings		1,500
Cash	500	
	<hr/>	
	\$165,500	\$165,500

3. A profit and loss account at the end of a year, after the books have been closed is as shown below.

Present in the most intelligible form the information that it gives about the business for the year.

#### PROFIT AND LOSS

Feb. 1, Bills Rec.	\$200	Jan. 1, Balance	\$15,000
Dec. 31, Bad Debts	700	Dec. 31, Interest	400
Neglected Discounts	50	Rent	1,200
Expense	400	Collected Discount	300
Wages	28,000	Trading Account	42,950
Depreciation	7,000		
Dividend, No. 67	3,500		
Dividend, No. 68	3,500		
Balance	16,500		
	<u>\$59,850</u>		<u>\$59,850</u>

### CHAPTER XIII. THE BALANCE SHEET. (Pages 315-330.)

1. If payments are received on account of goods in process of manufacture, should such payments appear on the balance sheet? If so, where?

2. Is it worth while to open a Bills Discounted account in the ledger? When would such an account be debited and when credited?

3. Why is it desirable to divide balance-sheet items into groups?

4. Certain items on the liabilities side of a corporation balance sheet appeared on December 31 in different years as follows:

	1907	1908	1909
Allowance for bad debts	.....	\$50,000	\$100,000
Reserve for depreciation	\$50,000	100,000	200,000
Reserve for betterments	.....	150,000	200,000
Surplus	450,000	400,000	500,000

The income sheet for 1908 showed surplus for the year \$150,000; and that for 1909 showed \$250,000.

Are the income-sheet figures consistent with the balance-sheet figures? If not, why? If so, what journal entries for each year produced the changes in the balance sheets above?

# CHAPTER XIV. THE INTERPRETATION OF BALANCE SHEETS. (Pages 331-346.)

1. The balance sheet of a corporation on December 31, 1908, stood as follows:

Real Estate	\$50,000	Capital Stock	\$200,000
Plant	95,000	Accounts Payable	20,000
Horses, etc.	15,000	Bills Payable	25,000
Patents	20,000	Profit and Loss	15,000
Merchandise	30,000		
Accounts Receivable	30,000		
Cash	20,000		
	<hr/>		<hr/>
	260,000		260,000

On December 31, 1909, the books appeared as below:

Real Estate	\$55,000	Capital Stock	\$200,000
Plant	88,000	Accounts Payable	12,000
Horses, etc.	12,000	Bills Payable	17,000
Patents	19,000	Profit and Loss	33,000
Merchandise	42,000		
Accounts Receivable	28,000		
Cash	18,000		
	<hr/>		<hr/>
	262,000		262,000

What were the profits for the year?  
Where are they?



2. You organize a corporation, and on January 1, 1908, the following facts are shown by the books:

The corporation has taken over from an individual owner a business of which the assets, determined by conservative valuation of the property, are \$100,000 (Bills Receivable and Accounts Receivable, \$20,000; Supplies, \$5,000; Real Estate and Plant, \$75,000). Capital stock to the amount of \$500,000 has been issued, of which \$200,000 has been given the original owner for his title, and \$300,000 has been sold for cash at par. The corporation has bought a neighboring plant for \$100,000, paying for it by Bills Payable to that amount.

Show a brief balance sheet under these conditions.

Now, you are absent from the corporation's affairs for two years. On your return you are told that 6 per cent. dividend has been paid in each year, and you are shown the balance sheets below.

Give a brief history of the business for each of the two years of your absence.

Jan. 1, 1909.

Real Estate and Plant	\$420,000	Capital Stock	\$500,000
Bills Rec. and Accts. Rec.	70,000	Funded Debt	100,000
Supplies	5,000	Profit and Loss	20,000
Merchandise	105,000		
Cash	20,000		
	<hr/>		<hr/>
	\$620,000		\$620,000

Jan. 1, 1910.

Real Estate and Plant	\$400,000	Capital Stock	\$600,000
Depreciation Fund Bonds	20,000	Reserve Fund	20,000
Reserve Fund Bonds	20,000	Profit and Loss	20,000
Bills Rec. and Accts. Rec.	70,000		
Supplies	5,000		
Merchandise	105,000		
Cash	20,000		
	<hr/>		<hr/>
	\$640,000		\$640,000

3. The balance sheet of a corporation on Jan. 1, 1909, was as follows:

Merchandise	\$65,000	Capital Stock	\$75,000
Bills Receivable	15,000	Bills Payable	10,000
Accounts Receivable	8,000	Accounts Payable	5,000
Fixtures	3,000	Surplus	5,000
Cash	4,000		
	<hr/>		<hr/>
	\$95,000		\$95,000

During the year 1909, the net income was \$10,000; purchases, \$200,000; sales, at 20% above cost price, \$240,000; cash decrease, \$3,000; bills receivable accepted, \$5,000 in excess of such notes collected; accounts receivable charged, \$1,000 in excess of accounts receivable collected; bills payable extinguished, \$1,000 in excess of those issued; accounts payable incurred, \$2,000 in excess of those paid; dividends paid, \$8,000.

Show the balance sheet for January 1, 1910.

4. You contemplate purchasing an interest in a business that has run five years, and agree to pay one-third the valuation of its net assets. The following statement is given you by the partners:

Dr.	
Buildings, machinery, etc., at Cost	\$50,000
Expended for repairs and renewals	8,000
Patent rights purchased	14,000
Balance of sales ledger	26,000
Inventory, as per stores and stock books	19,000
	<hr/>
	\$117,000

Cr.	
Bills payable	\$48,000
Balance of purchase ledger	47,000
Partners' capital	22,000
	<hr/>
	\$117,000

(a) Assuming that this statement gives all that you need to know, how much must you pay for your interest in the business?

(b) Does this statement give all necessary information about the assets? If not, what is lacking?

5. Comment upon the condition of a corporation which shows the following amounts for 1910 compared with 1909:

	1909	1910
Accounts Receivable	\$55,000	\$66,000
Bills Receivable	20,000	25,000
Accounts Payable	20,000	23,000
Bills Payable	15,000	16,500
Merchandise inventory	30,000	37,500
Cash	8,000	8,500
Sales	300,000	310,000
Purchases	225,000	238,000
Surplus	10,000	29,500

## CHAPTER XV. THE DETERMINATION OF COSTS.

(Pages 347-373.)

1. What is the common mechanism for showing the prime cost of labor?

2. What is shown by the stores ledger?

3. What are the ultimate purposes to be served by cost accounting?

4. What are the chief elements in a machine rate?

5. Why is idle machine time of consequence?

6. Should burden, or overhead cost, be an important factor in the accounting of retail department stores; of wholesale department stores; of charitable institutions; of railroads?



7. On what basis should you distribute general or overhead expenses to manufacturing orders under the following conditions:

(a) In a shop making hand product only and employing workmen of low grade only?

(b) In a shop making hand product only, employing some low-grade and some high-grade labor, and seasoning one-fourth of its product through the various steps of manufacture so that one year is required for completion of the various processes for that part, but the other three-fourths of the product is completed in one month?

(c) In a shop making part of its product by hand, part by low-cost machines, part by high-cost machines, employing both high-grade and low-grade labor, and turning out all product rapidly?

CHAPTER XVI. SETTLEMENTS BASED ON ACCOUNTS.  
(Pages 375-395.)

1. Under what conditions is goodwill creditable to partners? Why not otherwise?

2. How does a statement of affairs for an insolvent business differ in form and arrangement from a balance sheet? Construct an imaginary balance sheet that will do for illustration, and then make out a possible statement of affairs to correspond.

3. What is a Realization and Liquidation account?

4. Is Deficiency the same as a debit balance to Profit and Loss?

5. In a corporation, is Deficiency the same as Deficit?

6. Below is a summary of single-entry partnership books, with the inventories.

Set aside five per cent on the value of all assets (except cash) as a reserve fund for depreciation and for accrued items not on the books, and divide profits equally between the partners. Show the balance sheet after the books are closed.

James Otis, Investment	\$43,750
Henry Vane, Investment	50,000
Withdrawals by Partners (\$2,000 each)	4,000
Inventory, Goods	65,925
Inventory, Bills Receivable	38,400
Inventory, Furniture and Fixtures	4,750
Cash on Hand	14,065
Cash Paid for Wages	22,500
Cash Paid for General Expenses	14,170
Cash Paid for Raw Material	16,250
Sums Owed for Raw Material	6,250
Bills Payable	37,500
Debits to Customers	81,690
Credits to Customers	59,190

7. Construct a Deficiency Account to fit the situation disclosed by the following condensed trial balance and the subsequent entries shown.

Capital Stock		\$65,000
Real Estate	\$210,000	
Merchandise	80,000	
Bills Receivable and Accounts Receivable	43,500	
Bills Payable and Accounts Payable		304,500
Expense	30,670	
Bills Receivable Discounted		25,000
Cash	30,330	
	<hr/>	<hr/>
	\$394,500	\$394,500
 Bills Discounted	 \$25,000	
To Cash		\$25,000
Protested endorsed notes taken up,		

Bad Debts	17,000	
To Accounts Receivable		17,000
Bad accounts closed		
Profit and Loss	24,000	
To Merchandise		24,000
Depreciation on old stock, 30%		
Maintenance of Real Estate	5,000	
To Cash		5,000
Repairs on property		

8. A partnership agreement provides for equal division of profits. The following trial balance is normal for the business concerned. What light does it cast upon the adequacy of the partnership agreement?

A	\$1,000	\$50,627
B	7,000	27,510
C	15,000	42,568
Bills Payable		30,000
Accounts Payable		23,000
Real Estate	62,000	
Merchandise	60,705	
Bills Receivable	15,000	
Accounts Receivable	17,000	
Sales		210,000
Purchases	175,000	
Expense	27,000	
Interest	1,500	
Neglected Discount	2,500	
	<hr/>	<hr/>
	\$338,705	\$383,705

## CHAPTER XVII. AUDITING. (Pages 397-449.)

1. If an auditor knows that no dishonesty has been practiced, may he confine his work to checking the bookkeeping, beginning with the books of original entry?



2. Is a signed acknowledgment from an officer of a corporation sufficient voucher for items which otherwise an auditor would personally examine?

3. What is the function of an auditor's note book?

4. What are the more common methods of hiding the extraction of cash from customers' remittances, and how does an auditor detect resort to them?

5. Why is not the controlling account a sufficient check on sales accounts?

6. What are the more common methods of overstating cash payments, and how does an auditor detect resort to them?

7. How should you audit payments of interest; of taxes; of notes payable; of discounted notes protested; of officers' salaries; of dividends?

8. Why does an audit usually begin with cash?

9. Why do journal items require special care?

10. What precautions should be taken against padded inventories?

11. In examinations, how far may certificates take the place of auditing?

12. What is the function of an auditor's report?

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